IMPERIAL GAZETTEER OF INDIA

PROVINCIAL SERIES

MADRAS

II

THE SOUTHERN AND WEST COAST DISTRICTS,
NATIVE STATES, AND FRENCH POSSESSIONS

SUPERINTENDENT OF GOVERNMENT PRINTING
CALCUTTA
1908

Price Rs. 6, or 9s.]

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PROVINCIAL GAZETTEERS OF INDIA

MADRAS

VOLUME II

NORTH ARCOT DISTRICT

Arcot, North, District (*Arkāt*).—An inland District on the eastern side of the Madras Presidency, lying between 12° 20′ and 13° 55′ N. and 78° 14′ and 79° 59′ E., with an area of 7,386 square miles. It gets its name from the fact that it originally comprised that portion of the former Musalmān *Sūbah* of Arcot which lies north of the Pālār river. The part to the south was added subsequently from the southern division of the *Sūbah.* The name is supposed to be a corruption of the Tamil *āru-kādu* ('six forests'), tradition stating that the country was once occupied by this number of forests, in which dwelt an equal number of *rishis*. Boundaries, configuration, and hill and river systems.

On the north the District is separated from Cuddapah by a portion of the Eastern Ghāts, locally known as the Tirupati hills, from the town of that name which lies at their foot. The range is broken by a long valley running northwards into Cuddapah District. Advantage has been taken of this gap by the north-west line of the Madras Railway, which passes up it through the Ghāts on its way to Bombay. On the west the District runs up to the Mysore plateau. In the south-west, separated from the Eastern Ghāts by the fertile valley of the Pālār, is the detached group of the Jāvadi Hills, well wooded and containing much game, which divides the District from Salem and part of South Arcot. Along the southern and eastern borders, adjoining South Arcot and Chingleput, the country is flat and uninteresting. In the north-east the Nagari hills are conspicuous, with high precipitous cliffs, the most important peak being Nagari Nose (2,824 feet), in the Kārvetnagar *zamīndāri* overlooking the railway. This hill is

visible from the sea in fine weather and is a recognized landmark. From all the ranges numerous small boulder-covered spurs branch off towards the centre of the District, and combine to render it one of the most varied and picturesque areas in the Presidency.

None of the hills is particularly lofty, the general elevation of the Eastern Ghāts and the Javādis being about 2,500 and 3,000 feet respectively. The highest peak is Avalapalle Drug (3,829 feet), in the Punganūru *zamīndāri*. Karnaticgarh (3,124 feet) in the Polūr *tāluk*, and Kailāsagarh (2,743 feet) in Vellore, both on the Javādis, are other peaks of importance. Each has a small bungalow on its summit, which forms a pleasant retreat in the hot season. Except the Javādis, the hills are generally uninhabited.

The chief rivers of the District are the PĀLĀR, and its tributaries the Cheyyār and POINI. Except for a few days in the year, the beds of these are dry, sandy wastes. The Cheyyār rises in the Javādis. It first flows southwards into South Arcot District, then, bending to the east and north-east, enters the southern *tāluks* of North Arcot, flows eastward across them, and finally falls into the Pālār near Wālājābād in Chingleput District. There are numerous other smaller rivers and streams, but none of them is worthy of special note.

Geology. Geologically, the greater part of the District consists of Archaean rocks, among which there are probably a few representatives of the older micaceous, hornblendic, and talcose gneisses, and of the younger thin-bedded quartz-magnetite schists. But, for the most part, the Archaeans are represented by the more uniform plutonic gneissose granite of the Bāramahāl type. This rock builds the edges and rugged scarps of the Mysore plateau, as well as many detached spurs, *drugs*, and tors. They are all cut through by granite veins, quartz veins, and basic trap dykes, the last in great profusion. On the north-east and east the Purāna group of ancient unmetamorphosed sedimentaries is represented by the high scarped Nagari group of hills and the southern end of the Velikonda and Tirupati hills, which display grey and buff-coloured Nagari quartzites and conglomerates of the second lowest member of the Cuddapah series, in detached outliers from the great Cuddapah-Kurnool mass. Upper Gondwānas (Rājmahāls) are found in three adjacent areas on the eastern edge of the District. They consist of reddish sandstones and conglomerates, and clays and shales, with loose conglomerates containing imperfect plant remains. They are many hundred

feet thick and dip at moderate angles to the east, disappearing under the laterite and alluvium at the eastern edge of the District.

The flora of the District presents no points of particular interest. The growth on the hills is of the drier deciduous type usual to the lower spurs of the Eastern Ghāts, and in the low country are the ordinary Coromandel plants. The chief trees are referred to under Forests below. Botany.

The larger game includes the bison (*Bos gaurus*), which is found in small numbers on the Javādis, and an occasional tiger. Leopards are common throughout the rocky hills. The black bear, hyenas, *sāmbar*, spotted deer, jungle sheep or barking deer, antelope, and wild hog are also found in different parts of the District. Small game of the usual kinds are plentiful, and peafowl and jungle-fowl occur in the forests. Fauna.

The climate is on the whole healthy, being very dry. The Javādis, however, are malarious at certain periods of the year. The low country is hot, but never unbearably so, while the elevated tract on the west shares the cooler temperatures of the adjoining Mysore plateau. Temperature is not officially recorded at any station. Climate and temperature.

The annual rainfall of the whole District for thirty years ending with 1899 averaged 37 inches. But owing to the many ranges and hills, which sometimes collect and sometimes divert the rain-bearing clouds, it varies greatly in different parts. The driest tract is that above the Ghāts, where the fall is only 31 inches. In the neighbouring Chandragiri *tāluk* it is 33 inches. In the centre of the District, however, the fall increases to 39 and on the east to 40 inches. Speaking generally, the south-west monsoon is more copious than the north-east on the plateau and in the centre of the District, and the north-east than the south-west in the east, where the country is nearer to the Bay of Bengal and less shut out from currents driving inland. Rainfall.

Cyclonic storms are not uncommon, usually occurring in May or October at the change of the monsoon. They do not ordinarily cause much damage. The most destructive occurred on May 2, 1872, when Vellore chiefly suffered. Extensive floods took place in November, 1903, when, owing to the breaching of some large tanks in Mysore within the upper catchment basin of the Pālār, that river overflowed its banks and did a great deal of damage. Ambūr suffered severely, as did also several villages on either bank of the river in both the Vellore and Gudiyāttam *tāluks*. The anicut (irrigation

dam) across the Pālār near Arcot was very badly breached, and $4\frac{1}{4}$ lakhs has been spent in repairing it.

History.

Historically, from the earliest times of which anything is known down to the close of the ninth century A.D., the District formed part of the territory of the Pallavas, whose capital was at Conjeeveram, in Chingleput District. During the succeeding centuries, it passed successively under the sway of the Cholas of Uraiyūr, the Rāshtrakūta dynasty of Mālkhed, the great Chola king Rājārājā Deva of Tanjore, and the Hindu rulers of Vijayanagar. These last were overthrown by the Musalmāns of the Deccan in 1565 at the battle of Tālikotā, and the country fell into the power of the Sultāns of Bijāpur and Golconda. The last nominal kings of the Vijayanagar line lived for some years at CHANDRAGIRI. In 1687 the emperor Aurangzeb sent his general Zulfikār Khān to annex the south of India to the Mughal empire, and the District then passed under the Muhammadan Nawābs of the Carnatic, who made Arcot their head-quarters.

During the next hundred years North Arcot was the scene of some of the most decisive battles in the history of Southern India. One of the Nawābs, Dost Alī, was defeated and killed in the sanguinary action at the Damalcheruvu Pass, in the Chandragiri *tāluk*, by the Marāthās, who had been called in by the Naiks of TRICHINOPOLY to avenge his annexation of their capital. His two successors were murdered; and in 1749 the Nawāb Anwar-ud-dīn was defeated and killed at Ambūr, 50 miles west of Arcot, by his rival Chanda Sāhib, assisted by the French and Muzaffar Jang. During the war that followed on the Coromandel Coast, Arcot, the capital of the newly proclaimed Nawāb Chanda Sāhib, was captured by Clive on behalf of Muhammad Alī, the son of Anwar-ud-dīn, who was closely besieged by Chanda Sāhib and the French at Trichinopoly. Clive's subsequent brilliant defence of his prize is one of the most memorable events in Anglo-Indian history. On the renewal of the war in 1757 Arcot fell to the French. But Eyre Coote signally defeated Lally, the French general, at Wandiwāsh in 1760, and soon after retook every fortress that had been lost to the enemy. Haidar Alī, the Muhammadan usurper of the Mysore throne, during his invasion of the Carnatic in 1767 laid siege to Ambūr. But on the advance of a relieving army under Colonel Smith, he raised the siege and retired to Kāveripāk. In 1780 he again descended the Ghāts, laid waste Vellore and the surrounding country, and besieged Arcot. But hearing that an English

army under Sir Hector Munro was on its way thither, he abandoned the attempt. He succeeded, however, in cutting to pieces a detachment under Colonel Baillie at Pollilore, near Pālūr in the Wālājāpet *tāluk*. He afterwards resumed the siege of Arcot, which surrendered, while Ambūr was also taken. He next laid siege to Vellore and Wandiwāsh. The latter was gallantly defended by Lieutenant Flint and was eventually relieved by Sir Eyre Coote, who now commanded in Madras. Coote subsequently proceeded to the relief of Vellore and met the enemy at Sholinghur, where they had been drawn up to intercept him. The action was not decisive, but Haidar's loss was very heavy. Coote pushed on to Vellore and successfully provisioned it for three months. The next year (1782) he relieved Wandiwāsh, which had been again besieged, Flint once more offering a stout resistance. The war ended in 1783, and the District was not afterwards the scene of any serious fighting.

In 1781 the Nawāb had assigned the revenues of the Carnatic to the Company, and North Arcot thus passed under their management. In 1801 it was, with the rest of the Carnatic, ceded in full sovereignty by the Nawāb Azīm-ud-daula. The Poligār chiefs of the District gave constant trouble at first, but by 1805 all of them had been reduced to submission. Since then the quiet of the country has only once been disturbed. This was by the mutiny of the sepoys stationed at Vellore in 1806. The outbreak was quelled by troops from Arcot under Colonel Gillespie.

Archaeology.

The District contains numerous kistvaens, the most remarkable group being at BĀPANATTAM, a small village in the Palmaner *tāluk*. These have been conjectured to be the work of the ancestors of the existing caste of Kurumbas, who according to tradition were once a powerful community. The ruined city at PADAVEDU in the Polūr *tāluk* is also thought to have been their capital. Rock sculptures, the work of past generations of Jains, are to be seen in the Arcot *tāluk* at Pancha Pāndavamalai, MĀMANDŪR, and Tiruvattūr, in the Polūr *tāluk* at Tirumala, and in Chittoor at Vallimalai. Inscriptions on stone are common, and many of them remain to be deciphered. Of the temples, the most famous Hindu examples are those of KĀLAHASTI, PADAVEDU, SHOLINGHUR, TIRUMALA, or Upper Tirupati, TIRUTTANI, Tiruchānūr, Tiruvallam, Tiruvelangādu, Vallimalai, and Virinchipuram; and the best-known Jain shrine is that at Arungulam.

The people.

Appended are statistical particulars, for 1901, of the fifteen

tāluks and *zamīndāri tahsīls* of which the District is made up:—

Tāluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Wālājāpet . .	484	3	246	221,812	458	− 7·3	17,531
Kālahasti . .	638	1	324	94,132	148	+ 15·0	4,327
Chandragiri .	548	1	231	113,550	207	− 0·8	8,003
Puttūr . .	542	..	340	170,235	314	+ 9·4	7,328
Tiruttani . .	401	..	327	171,005	426	− 1·2	7,828
Chittoor . .	793	1	338	209,868	265	+ 4·8	10,541
Punganūru . .	648	1	564	96,852	149	+ 5·2	4,126
Palmaner . .	439	..	91	51,575	117	+ 7·1	2,484
Vellore . .	421	2	149	200,541	476	+ 3·9	18,583
Gudiyāttam .	447	1	183	195,665	438	+ 10·7	9,486
Arcot . .	432	1	258	180,564	418	+ 2·1	15,327
Kangundi . .	347	..	268	64,446	186	+ 19·2	1,789
Arni . . .	184	..	139	96,542	525	+ 5·2	7,368
Polūr . . .	596	1	170	155,673	261	+ 11·4	8,229
Wandiwāsh .	466	..	284	185,252	398	+ 4·2	11,580
District total	7,386	12	3,912	2,207,712	299	+ 4·4	134,530

In the density of its population North Arcot, like Coimbatore and Salem, both of which likewise consist largely of hill and jungle, is below the average of the southern Districts. In Kangundi, Palmaner, and the Punganūru *zamīndāri* on the Mysore plateau and in the Kālahasti Estate, there are less than 200 persons per square mile. The numbers at the four enumerations were as follows: 2,015,278 (1871), 1,817,814 (1881), 2,114,487 (1891), and 2,207,712 (1901). During the last thirty years, the population has increased by only about 13 per cent. The decline of nearly one-tenth in the decade 1871–81 was due to the great famine of 1876. During the ten years ending 1901 the increase was only 4 per cent. Continuous high prices led to considerable emigration in this period to Madras city, Chingleput District, and the Kolār gold-fields in the neighbouring State of Mysore. In 1901 Madras city contained 26,000 persons who had been born in North Arcot, Chingleput 37,000, and Mysore State no less than 54,000.

As in Chingleput and Salem, the villages in North Arcot are small, containing only 520 inhabitants on an average. The District possesses twelve towns: namely, the municipalities

of VELLORE (population, 43,537), GUDIYĀTTAM (21,335), TIRUPATI (15,485), and WĀLĀJĀPET (10,067), and eight smaller Unions. CHITTOOR, the administrative head-quarters, ranks only seventh in size among the towns. Except perhaps Tirupati, which owes its vitality to its temple, and Gudiyāttam and Ambūr, which contain a large number of enterprising Labbai traders, none of these towns is growing. The population of Vellore declined in the decade 1891–1901; and that of Arcot and Wālājāpet, which were once trade marts but have now been deserted by the stream of commerce, is less than it was thirty years ago.

Of the total population, 2,068,386, or nearly 94 per cent., are Hindus, 103,088 (5 per cent.) Musalmāns, and 22,964 (1 per cent.) Christians. Christians have, however, more than doubled in numbers during the last twenty years. Three-fourths of them are Roman Catholics. Jains number 8,000, being more numerous than in any other District except South Kanara. More than half of them are in the Wandiwāsh *tāluk*. About 56 per cent. of the people speak Tamil, which is the prevailing vernacular of the south-eastern *tāluks*, and 39 per cent. Telugu, which is the language mainly spoken elsewhere. As so considerable a proportion of the people speak each of these languages, the District *Gazette* and other official papers are usually printed in both.

Their castes and occupations.

Of Tamil castes, more than half belong to the two agricultural labourer communities of the Pallis and Paraiyans, who number respectively 357,000 and 193,000. After these the most numerous body are the Vellālas (166,000), the great land-holding class among the Tamils. Interesting communities are the Irulas, Kanakkans, Mondis, and Panasavans, who are found in greater strength in this District than elsewhere. The Irulas were till recently a jungle tribe subsisting mainly on forest produce, and are now splitting up into two sections, the jungle Irulas and the village Irulas. The latter have taken to cultivation and civilization, and look down upon the former. The Kanakkans are an uncommon class of accountants. The Mondis are a body of particularly pertinacious beggars, whose methods of extracting alms from the reluctant include cutting themselves with knives and other unpleasant performances. The Paṇasavans live largely by assisting at weddings and funerals, taking round the invitations and blowing the conches.

The four largest Telugu castes are the Kāpus (149,000), Mālas (144,000), Balijās (131,000), and Kammas (124,000).

Balijās are more numerous in North Arcot than in any other Madras District. Other Telugu castes which are also found here in greater strength than elsewhere are the Gāndlas (oil-pressers); the Mutrāchas (cultivators and *shikāris*); the Jettis (wrestlers); the Jogis, who are jugglers, beggars, and pig-breeders; and the Panasas, a class of mendicants.

The Musalmāns are mainly Shaikhs or Labbais, the latter being of partly Tamil origin and following many Hindu ways and customs. They are among the most enterprising traders in the Province.

Except that an even larger proportion than usual (as many as 74 per cent.) of the people are engaged in agriculture, the occupations of the inhabitants of the District present no striking variations from the normal.

Christian missions.

Of the 23,000 Christians in the District, 22,100 are natives. Nearly 17,000 are Roman Catholics, 3,900 Presbyterians, and 900 Anglicans, the last sect consisting almost wholly of Europeans and Eurasians. The earliest mission work was started by Jesuit Roman Catholic priests, who had a church at Punganūru at least as early as 1735. The main field of work of the Catholic mission now lies in the Polūr and Wandiwāsh *tāluks* and the Arni *jāgīr*. The next most important mission is the American Arcot Mission, which began work in 1851. During the first decade the work was largely preparatory and evangelistic; but in 1861 the village movement began and has grown steadily, there being now twelve organized churches and a total Christian community of nearly 4,000. The mission is also doing much useful work in education and medical relief. Its principal stations are Vellore, Chittoor, Palmaner, Punganūru, Arni, Rānipet, Sholinghur, and Arkonam. Other minor missions working in the District are the German American (Ambūr); the Independent Danish (Vellore); the Dravidian (Vellore); and the Hermannsburg Evangelical Lutheran (Tirupati, Kālahasti, and Kārvetnagar).

General agricultural conditions.

The greater part of the soil in the Government *tāluks* is of the red ferruginous series (loam and sand), the proportion of red to black being about 4 to 1. The black soils are chiefly found near the principal rivers, occurring in all the *tāluks* but Palmaner. Nearly half the cultivable area consists of more or less fertile loam, black or red. By far the greater part of the black loam is 'wet' (irrigated) land; the greater part of the red is 'dry' land. The soil is fairly fertile, except in the open country to the south-east and on the plateau, where there is much scrub jungle. The most productive areas

are in the Gudiyāttam, Vellore, Chittoor, and Chandragiri *tāluks* and in the Kārvetnagar *zamīndāri*, where there are many well-watered valleys.

The sowing seasons are, for 'dry' land, July to August, and for 'wet' land, September to October. About 63 per cent. of the cultivable area is cultivated in normal years, and about a fourth of this yields in addition a second crop. Rice, the most important staple, covers in normal years about 36 per cent. of the total cultivated area, while all the 'dry' grains together occupy only 48 per cent. In years of deficient rainfall the area under rice greatly diminishes, while that under 'dry' food-crops increases correspondingly. The deficiency in rice in the last unfavourable year (1900) was as large as 123,000 acres, or about 33 per cent. of the average area in ordinary years. It is seldom that both monsoons are good, but it is only a deficiency in the north-east rains that materially affects agricultural operations.

Chief agricultural statistics and principal crops.

The 7,386 square miles comprised in the District are made up of 4,093 square miles of *ryotwāri* and 'minor *inām*' land, 3,183 square miles of *zamīndāris*, and 110 square miles of 'whole *inām*' villages. Agricultural statistics are not available for the *zamīndāris*. Particulars for the *ryotwāri* and *inām* land in 1903-4 are given below, areas being in square miles:—

Tāluk.	Area shown in accounts.	Forests.	Cultivable waste.	Cultivated.	Irrigated.
Wālājāpet . .	478	15	137	206	123
Chandragiri .	407	240	46	54	21
Chittoor . .	519	115	129	147	75
Palmaner . .	439	204	46	71	19
Vellore . .	420	204	40	120	50
Gudiyāttam .	446	159	56	160	72
Arcot . .	432	33	157	183	91
Polūr . .	597	303	33	157	53
Wandiwāsh .	465	18	97	229	95
District total	4,203	1,291	741	1,327	599

The staple food-grains are rice, *rāgi* (*Eleusine coracana*), and *cambu* (*Pennisetum typhoideum*). The normal percentages of the areas under these crops to the total areas cultivated are 36, 13, and 12 respectively. Rice predominates in all *tāluks* but Palmaner, where *rāgi* accounts for 43 per cent. of the cropped area. The largest areas are found in the Wālājāpet, Arcot, and Wandiwāsh *tāluks*, where there are large tanks fed by the Pālār,

Poini, and Cheyyār anicuts. More *rāgi* than *cambu* is grown in Palmaner, Chittoor, and Wālājāpet, and more *cambu* than *rāgi* in the remaining six *tāluks*. The crops next in imporance are *varagu* (*Paspalum scrobiculatum*), *cholam* (*Sorghum vulgare*), and horse-gram (*Dolichos uniflorus*). Sugar-cane is mainly grown in the Palmaner, Chittoor, Chandragiri, and Arcot *tāluks*. A considerable quantity of gingelly is raised in Wālājāpet, Arcot, Wandiwāsh, and Polūr, while ground-nut is mainly sown in Chittoor, Wālājāpet, Arcot, and Wandiwāsh. Indigo was once an important crop, but is so no longer. It is principally grown in Wālājāpet, Arcot, Vellore, and Gudiyāttam. *Gānja* (*Cannabis sativa*), an intoxicating drug, is specially grown on the Javādi Hills under licences issued by the Abkāri department. There are about 3,000 acres of mango groves in Chittoor, Gudiyāttam, Vellore, and Chandragiri. The fruit is exported to Madras, Calicut, the Nizām's Dominions, Bombay, Rangoon, and other places, where it fetches a high price under the trade name of Mazagon (Bombay) mangoes. Oranges are largely sent to Madras, Ṣalem, and elsewhere from Ambūr and other villages in Vellore *tāluk* and the Kārvetnagar *zamīndāri*. Betel leaves are exported from stations on the Madras and South Indian Railways to various parts of Northern India. Limes are raised for export to Madras in a few villages in the Chittoor and Gudiyāttam *tāluks*.

Improvements in agricultural practice.

The area of holdings in 1903-4 is larger by 27 per cent. than the area thirty years ago. There are still about 500 square miles of unoccupied cultivable land distributed over all the *tāluks*, but the soil is inferior. The only improvements in agricultural methods worth noting are the practice of raising a 'dry' crop on 'wet' lands as a first crop in years of scanty rainfall, and the adoption of the cultivation of *puludi* rice. This latter is sown without the aid of irrigation, and is generally put down two months before the irrigation source is expected to receive a supply. During the last two or three months of its growth it is irrigated. This system brings the crop to maturity even if water is scarce. The almost total displacement of the old rude wooden sugar-cane mills by iron ones and the discarding of the local ground-nut seed for better foreign varieties must also be noted. Advances have been taken under the Loans Acts by the ryots of this District far more freely than in any other in the Presidency except Coimbatore. During the sixteen years ending 1904, more than 8 lakhs was advanced, the greater portion of which has been laid out in digging or repairing wells.

Cattle, sheep, and goats.

Cattle of an ordinary type are bred in the Gudiyāttam and Palmaner *tāluks* and in certain *zamīndāri* areas, such as Punganūru, Kallūr, and Pulicherla, the chief markets being Rānipet and Gudiyāttam. In Kālahasti many Nellore cattle are used, but the ryots do not breed from them. Above the Ghāts good bullocks and cows are occasionally seen, the former of the Mysore breed (chiefly in Kangundi) and the latter in Punganūru. Sheep and goats are nowhere bred on a large scale. The sheep of the plains are the common long-legged red kind; but on the plateau, as well as in the west of Polūr, a small black breed called Kurumba sheep is met with which carries a fair quantity of wool. This is extensively used for making the coarse woollen blankets used by the ryots. In 1852 an attempt was made to improve the breed by the importation of half-bred Merino sheep from Mysore, but the experiment failed as the animals would not thrive here. None of the other domesticated animals deserve notice. Bullocks are chiefly owned for ploughing and lifting water from wells, while sheep and goats are reared for penning in the fields for manure as well as on account of their skins. These are either tanned at Rānipet, Ambūr, and other places, or exported in the raw state.

Irrigation.

Of the total area of *ryotwāri*, 'minor *inām*,' and 'whole *inām*' land cropped, 599 square miles, or 45 per cent., were irrigated in 1903–4. Of this, 331 square miles (55 per cent.) were watered from tanks, 131 from wells, and 75 from Government canals. The figures given on p. 9 show in which *tāluks* this extent was found. In a favourable season the irrigated area will often exceed half the net area cropped, the increase being chiefly from tanks. About 60 per cent. of the irrigated area is supplied by small tanks dependent on precarious local rainfall. The remaining 40 per cent. depends on larger tanks fed from dams across the rivers. This latter supply is also precarious, for the courses of the rivers are short, and, rising either in the District itself or just outside it, they are largely dependent on local rainfall. The principal anicut or barrage systems are the Pālār anicut, which supplies 50,000 acres of first crop, and 25,000 acres of second; the Poini anicut, watering 22,000 acres of first crop and 9,000 of second; and the Cheyyār anicut, which irrigates 32,000 acres altogether. There are altogether 3,200 tanks in the District, of which 2,900, or more than 90 per cent., are small affairs not irrigating more than 200 acres each. More than half of these irrigate 50 acres each or less.

A feature of the District is the number of wells which have been sunk to supplement the precarious tank supply. About 50,000 of these ensure a crop on at least as many acres of 'wet' land, but there is still much scope for further protection of the same kind. In addition, about 75,000 wells irrigate more than 100,000 acres of 'dry' crops. An ordinary well will always ensure a crop during one, and frequently during two, years of drought.

About 45,000 acres of 'wet' land are irrigated by channels, often several miles long, dug with great labour in the sandy beds of the rivers to tap the underground flow, which is remarkably copious and constant. Spring channels are also dug in likely places, especially in the Gudiyāttam *tāluk*, to utilize spring water. These irrigate on the whole about 15,000 acres.

Forests.

The area in square miles of 'reserved' forests in each *tāluk* has been given above. The Javādi Hills, situated in the Polūr and Vellore *tāluks*, make up the largest area reserved; next come the forests in Chandragiri, Palmaner, and Gudiyāttam. Arcot, Wālājāpet, and Wandiwāsh possess only a few scattered areas. The forests have been much opened up during the last few years by the construction of roads and bridle-paths. Four *ghāt* roads now ascend the Javādi Hills from Amerdi, Arasambut, Alangayam, and POLŪR, and are connected on the plateau by bridle-paths. Hill villages and enclosures within the forests were demarcated and surveyed between 1900 and 1902, and the revenue settlement of these is about to begin. During the ten years ending 1902-3 the forests have yielded a net revenue, after payment for all improvements in communications, averaging Rs. 53,300, the chief sources of income being the sale of firewood, minor forest produce, bamboos and timber, and fees for grazing. The gross revenue in 1903-4 was Rs. 1,37,000. A working-plan, or scheme for felling areas in regular rotation, is under preparation. The most valuable tree is the red sanders (*Pterocarpus santalinus*), which grows chiefly in the Chandragiri forests. It is used for the preparation of a costly red dye. Teak (*Tectona grandis*), blackwood (*Dalbergia latifolia*), and sandal-wood (*Santalum album*) are found in small quantities in the Vellore and Polūr jungles.

Mines and minerals.

Good granite for building is procurable all over the District. Deposits of corundum and mica occur here and there, but the efforts hitherto made to work them at a profit have not proved successful. There is said to be copper in the Kālahasti *zamīndāri*, but no capitalist has yet attempted to exploit it. Gold exists in the Pulicherla estate, but has not been

systematically mined. It is largely distributed in the Kangundi *zamīndāri*, where there are a large number of old workings, a continuation of the Kolār workings just over the border in Mysore. The Mysore Reefs (Kangundi), Kempinkote, and Yerrakonda gold-mining companies carried on operations here for some years. Of these, the first was the most successful and extracted a considerable quantity of the metal; but the excessive hardness of the quartz and the fickleness of the lode, due to the broken nature of the country, proved too great a strain on the resources of the company and it has now practically closed operations.

Weaving, with its complements of spinning and dyeing, is the only noteworthy handicraft in the District, being the most important occupation next to agriculture. The majority of the weavers produce only the common cotton fabrics used by the lower classes of the people. The valuable silk stuffs worn by the wealthier Brāhman women are woven at ARNI. Silk fabrics approaching these in quality are also manufactured at Wālājāpet and Tiruvattūr. Woollen carpets are a speciality of the Vellore Central jail, but the industry has not spread beyond its walls, though specimens of a poor quality are made at Wālājāpet. Wālājāpet is also noted for the manufacture of cloths on which patterns of birds, flowers, &c., are printed by hand in sundry colours by means of carved wooden blocks or engraved copper plates. The usual small local industries are conducted by blacksmiths, potters, leather-makers, goldsmiths, &c. An ornamental green-glazed earthenware of artistic design, some of the patterns being borrowed from European models, is made by a single family at Karigiri in the Gudiyāttam *tāluk*. A little brasswork is done at Vellore and Tirupati, and at the latter place some good wood-carving also. Rush mats are made at Wandiwāsh, and glass bangles in the Kālahasti *zamīndāri*. There are a number of tanneries in Ambūr, Pernambut, Rānipet, and other places, which are chiefly in the hands of the Labbais, an enterprising class of Tamil-speaking Muhammadans. The largest in the District is at Devalapuram near Ambūr, which employs a daily average of 500 persons. In the English market the leather from this District is technically known as Rānipet and is highly valued. Arts and manufactures.

The chief exports of North Arcot are rice, ground-nuts, hides, skins and horns, jaggery (coarse sugar), tamarind, stone, and Indian piece-goods; while the principal imports are European piece-goods, yarn and twist, salt, chillies, tobacco, Commerce.

and a certain amount of unwrought brass and iron. Gudiyāttam is the centre of the skin trade of this and the adjoining Districts. Vellore and Wālājāpet were formerly important local marts, but since the opening of the railways they have declined. The grain trade of Vellore is still, however, considerable. Local exchange of commodities is effected, as elsewhere, at numerous weekly markets. Besides the Labbais already referred to, the chief trading castes are the Balijās and Komatis.

Railways and roads.

North Arcot is better off in the matter of railways than any other District in the Presidency. The Madras Railway, on the standard gauge, enters it some ten miles east of Arkonam, and from the latter place the north-west line runs through Tiruttani, Puttūr, and Renigunta junction to the Cuddapah frontier. The south-west line passes through Wālājā Road and Kātpādi junctions, Gudiyāttam, and Ambūr on its way to Jalārpet in Salem; and the Bangalore branch from the latter place enters the District again in the Kangundi *zamīndāri*, the principal station being Kuppam at the top of the steepest part of the *ghāt*. A short branch line four miles in length runs from Wālājā Road junction to Rānipet.

The South Indian Railway, a metre-gauge line, has now a very large mileage in the District. The oldest portion is that from Conjeeveram to Arkonam, which was subsequently continued to Chingleput and connected with the main line. The most important section of the South Indian system in the District is a line opened in 1891, which, starting from Villupuram in South Arcot, runs through Polūr, Vellore, Kātpādi junction, and Chittoor to Pākāla junction. From here one branch has been taken eastwards through Chandragiri to join the previously existing metre-gauge line opened in 1887 between Tirupati and Nellore, which passes through Renigunta junction and Kālahasti to Gudur in Nellore District, where it meets the east-coast section of the Madras Railway; while in 1892 another branch from Pākāla was made across the plateau, running north-westward through Cuddapah and Anantapur and joining the Southern Mahratta system at Dharmavaram. The total length of railways in the District is 333 miles, of which 166 belong to the Madras Railway and 167 to the South Indian.

The District is also well supplied with roads, the total length of 1,483 miles being metalled and in charge of the local boards. Avenues of trees are maintained along 1,019 miles. The most important routes are that from Madras to Calicut,

which traverses the Wālājāpet and Vellore *tāluks*, passing through Kāveripāk, Wālājāpet, Rānipet, Vellore, and Ambūr; the Bombay trunk road, which leaves this at Rānipet, and passes through Chittoor, Palmaner, and Punganūru; the Kurnool trunk road from Chittoor through Puthalpet and Damalcheruvu to the Cuddapah frontier; a branch from the last-mentioned road through Chandragiri, Tirupati, and Kālahasti to Nāyudupeta in Nellore, where it joins the coast road; and a road from Wālājā Road railway-station to Wandiwāsh, passing through Arcot and Tiruvattūr.

Famine.

During the first third of the last century there were four famines; during the second third of the century (1833–66) the District escaped. In 1877 came the great famine. In October of that year the number of persons receiving relief reached 205,600; and it is reckoned that the population was diminished by one-fifth by privation and disease. No less than 116,000 cattle were also estimated to have perished. The expenditure by the state on relief works amounted to 30 lakhs, and on gratuitous relief to a further 16½ lakhs. Famine or severe scarcity has since occurred in 1891–2, 1896–7, and 1900–1. In the first of these years the highest number of persons receiving relief was 15,000, and remissions of revenue amounting to over 4 lakhs were granted.

District subdivisions and staff.

For general administrative purposes the District forms four subdivisions, of which two, Vellore and Rānipet, are in charge of members of the Indian Civil Service, and the other two, Arni and Chittoor, are managed by Deputy-Collectors recruited in India. Vellore comprises the Vellore, Gudiyāttam, and Arcot *tāluks* and the Kangundi *zamīndāri tahsīl*; Rānipet comprises the Wālājāpet and Chandragiri *tāluks* and the *zamīndāri tahsīls* of Kālahasti, Puttūr, and Tiruttani (the latter two forming the Kārvetnagar *zamīndāri*); Arni comprises the Polūr and Wandiwāsh *tāluks* and the Arni *jāgīr*; and Chittoor comprises the Chittoor and Palmaner *tāluks* and the Punganūru *zamīndāri tahsīl*.

Each *tāluk* is in charge of a *tahsīldār*, and each *zamīndāri tahsīl* is in charge of an independent deputy-*tahsīldār*, who is also a sub-magistrate. Except in Palmaner, where the *tahsīldār* is himself the sub-magistrate, there is a stationary sub-magistrate for each *tāluk*. There are deputy-*tahsīldārs* to assist the *tahsīldārs* at Venkatagirikota (Palmaner), Vellore, Pernamallūr (Wandiwāsh), and Arkonam (Wālājāpet). The District staff includes the usual superior officers, and the head-quarters of an Assistant Commissioner of Salt and

Abkāri and of a Deputy-Inspector-General of Police are situated at Vellore.

Civil justice and crime. Civil justice is administered by six District Munsifs, at Vellore, Chittoor, Tirupati, Sholinghur, Rānipet, and Arni, and by the District Judge, whose court is at Chittoor. A Subordinate Judge also sits at Chittoor for six months in the year and at Salem for the other six. The chief criminal tribunal is the Court of Sessions. Crime fluctuates as elsewhere with the state of the season, but dacoities and cattle thefts are more than usually numerous.

Land revenue administration. Little is known of the revenue history of the District prior to the time of the Nawābs of the Carnatic, who ruled at Arcot from the commencement of the eighteenth century as deputies of the Nizām at Hyderābād. During the eighteenth century the District was the scene of incessant warfare; and the petty local chiefs and *zamīndārs*, over whom the Nawāb, distracted by his own troubles and anxieties, ceased to exercise any efficient control, extracted as high a rent as they could from the helpless cultivators. When the Nawāb formally gave place to the British Government in 1801, the rents were found to be oppressive and unsystematic; and successive Collectors endeavoured to introduce a better revenue system, based on rational and just principles which might make the revenue demand consistent with the capacity of the cultivators and the resources of the land. After a system of leasing out whole villages to their head inhabitants, who collected what rents they could from the cultivators, had been tried for some years without success, it was resolved in 1822 to introduce the *ryotwāri* system which has since prevailed. In 1805 the Collector (Mr. Græme) made a general survey and settlement in the northern part of the District. The assessments then fixed, however, were still very high; and it was not until between 1872 and 1879 that the revenue administration gradually reached its present stage. In 1872 a regular cadastral survey of the District was begun. This was followed by a resettlement of the revenue, which was completed in 1885. The survey found an excess of only 1 per cent. over the area shown in the accounts; the settlement raised the land revenue by 5 per cent., but this was made up of an increase of 10 per cent. in the assessment of the irrigated lands and a decrease of 3 per cent. in that on 'dry' lands. The average assessment on 'dry' land per acre is now Rs. 1–4–2 (maximum, Rs. 3–8–0; minimum, 6 annas), and that on 'wet' land Rs. 4–15–2 (maximum, Rs. 8; minimum, Rs. 2). The

revenue from land and the total revenue in recent years are given below, in thousands of rupees :—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	32,00	34,01	26,32	35,87
Total revenue . .	38,53	50,66	40,62	52,28

Local boards.

Outside the four municipalities, local affairs are in the hands of the District board, and (under it) of four *tāluk* boards, one for each subdivision. The affairs of twenty-one of the smaller towns are managed by Union *panchāyats* established under the Local Boards Act of 1884. In 1903-4 the total expenditure of all these bodies amounted to 4·36 lakhs, of which 2·26 lakhs was devoted to roads and buildings, 1·06 lakhs to medical institutions, sanitation, and vaccination, and Rs. 67,000 to education.

Police and jails.

The District Superintendent of police at Chittoor has general control over the force throughout North Arcot; but an Assistant Superintendent stationed at Vellore has immediate charge of the southern portion of the District, consisting of Wālājāpet, Kangundi, Vellore, Arcot, Polūr, Arni, and Wandiwāsh. The principal of the Vellore police training-school, who is an officer of the force, has recently been put in charge of Gudiyāttam as a Special Assistant Superintendent. There are 98 police stations; and the force numbers 1,305 constables, under 19 inspectors, besides 2,032 rural police. The reserve force at the District head-quarters numbers 62 men. Vellore contains one of the seven Central jails of the Presidency, with accommodation for 1,217 males and 90 females, as well as for 76 persons in the hospital, 49 in the observation cells, and 10 civil prisoners. The convicts are largely employed in making tents for Government departments and the private market. On an average 150 tents, valued at Rs. 20,000, are made annually. Cotton and woollen carpets are also manufactured, the annual out-turn being worth about Rs. 8,000. There are also 19 subsidiary jails located at the head-quarters of the several sub-magistrates, with accommodation for 373 persons.

Education.

According to the Census of 1901, North Arcot stands tenth among the twenty-two Districts of the Presidency in the literacy of its population, of whom 6·1 per cent. (11·6 males and 0·6 females) are able to read and write. Compared with the other southern Districts it is backward. The Tamils are better educated than the Telugus, and, what is most unusual,

the Musalmāns than the Christians. Of the nine *tāluks*, education is most advanced in Vellore, Wālājāpet, and Arni, and is most backward on the plateau. The total number of pupils under instruction in 1880–1 was 16,642; in 1890–1, 37,906; in 1900–1, 48,053; and in 1903–4, 51,000. On March 31, 1904, there were in the District 1,611 educational institutions of all kinds, of which 1,653 were classed as public and 558 as private. Of the former as many as 1,015 were primary schools. Secondary schools numbered 28, and training and special schools 9, and there was 1 college. The number of girls in both public and private institutions was 7,082. Of the public institutions, 11 were managed by the Educational department, 91 by local boards, and 24 by municipalities; while 549 were aided from public funds, and 378 were unaided but conformed to the rules of the Educational department. The training-schools comprised 4 for masters and 1 for mistresses; and the 4 special schools are the American Arcot Mission industrial school at Arni, the Hermannsburg Lutheran German Mission (commercial) school at Tirupati, the Rānipet women's industrial school, and the Anjumani industrial school at Vellore. An enormous majority of the pupils under instruction are only in the primary classes, the number of girls who have advanced beyond that stage being especially small. Of the male population of school-going age, 18·6 per cent. were in the primary stage of instruction, and of the female population of the same age, 3·4 per cent. Among Musalmāns, the percentages of the scholars (including those at Korān schools) of each sex to the male and female population of school-going age were 84 and 25 respectively. Panchama pupils to the number of 3,453 were under instruction in 166 primary schools. The American Arcot Mission College is at Vellore. It is the highest educational institution in the District, teaching up to the F.A. standard. It was affiliated to the University of Madras in 1898. In 1903–4 it had an average attendance of 655, of whom 23 were in the F.A. classes. The expenditure on education in that year was Rs. 2,48,000, of which Rs. 88,500 was derived from fees. Of the total amount 62 per cent. was devoted to primary education.

Hospitals and dispensaries.

The District possesses six hospitals, situated at Vellore, Chittoor, Rānipet, Tirupati, Arni, and Palmaner. That at Rānipet is maintained by the American Mission; the others by the municipalities or local boards concerned. They contain accommodation for 183 in-patients. There are also fourteen dispensaries, located as a rule at the head-quarters of the

sub-magistrates, which are all maintained by the municipalities or the local boards. In 1903 the total number of cases treated was 195,000, of whom 2,600 were in-patients, and 7,000 operations were performed. The expenditure was Rs. 46,000, the greater part of which was met from Local and municipal funds. A fine women's hospital, embodying all the latest structural improvements and equipped with up-to-date surgical appliances, has lately been opened at Vellore by the American Mission.

Vaccination. In regard to vaccination, the District has been specially backward of late years, owing chiefly to the unfavourable character of the seasons and consequent distress among the agricultural population, and also to the spread of plague, which has made ignorant parents afraid lest under the guise of vaccination their children should be inoculated against that disease. The number of persons successfully vaccinated during 1903-4 was only 22 per mille of the population, compared with the Presidency mean of 30. Vaccination is now compulsory in the four municipalities and in fourteen of the twenty-one Unions.

(*North Arcot Manual*, by A. F. Cox and H. A. Stuart, 1895.)

Rānipet Subdivision.—Subdivision of North Arcot District, Madras, consisting of the *tāluks* of WĀLĀJĀPET and CHANDRAGIRI and the *zamīndāri tahsīls* of KĀLAHASTI and KĀRVETNAGAR.

Wālājāpet Tāluk.—Eastern *tāluk* of North Arcot District, Madras, lying between 12° 51′ and 13° 12′ N. and 79° 15′ and 79° 48′ E., with an area of 484 square miles. In 1891 the population was 239,349, but in 1901 it had declined to 221,812, the decrease exceeding 7 per cent., a more serious fall than occurred in any other *tāluk*. It is still, however, the most populous part of the District. It contains 246 villages and the three towns of RĀNIPET (population, 7,607), SHOLINGHUR (6,442), and WĀLĀJĀPET (10,067), the head-quarters. The demand on account of land revenue and cesses in 1903-4 amounted to Rs. 5,23,000. Wālājāpet is made up of the old *tāluks* of Kāveripāk and Sholinghur, which were combined in 1861, together with a few villages from the former *tāluk* of Tiruvallam. For the most part the surface is flat, but in the north several small hills occur. The highest and most remarkable of these is the Sholinghur hill, upon which is perched a celebrated temple. The *tāluk* is well supplied with communications, the south-west line of the Madras Railway crossing it from east to west and the north-west line traversing it from south to north.

Kālahasti Tahsīl.—*Zamīndāri tahsīl* in the Kālahasti *zamīndāri* in the north-east of North Arcot District, Madras, lying between 13° 14′ and 13° 55 N. and 79° 27′ and 79° 59′ E. Area, 638 square miles; population in 1901, 94,132, compared with 81,860 in 1891. The *tahsīl* contains 324 villages and one town, KĀLAHASTI (population, 11,992), the head-quarters. Demand for *peshkash* and land cess in 1903-4, Rs. 78,000.

Kālahasti Zamīndāri.—One of the largest *zamīndāri* estates in Madras, situated partly in North Arcot District, partly in Nellore, and partly in Chingleput. Number of villages, 406 in North Arcot, 201 in Nellore, and 206 in Chingleput; area, 638 square miles in North Arcot, 576 in Nellore, and 250 in Chingleput; total population (1901), 223,327. The capital is the town of Kālahasti, where the *zamīndār* resides. The history of the family, which belongs to the Velama caste, is obscure. The original owner of the estate probably received it from a king of the Vijayanagar dynasty in the fifteenth century, on condition of maintaining order. The estate at one time spread as far as the site of Fort St. George, and the Company obtained the land on which Madras now stands from the proprietor in 1639. The settlement is traditionally said to have been named Chennappapatnam in honour of the *zamīndār's* father. The estate came under British control in 1792, and a formal grant to the family was made in 1801. The *zamīndār* afterwards received the hereditary title of Rājā. The gross income amounts to over 5 lakhs. The *peshkash* (or permanent revenue paid to Government) for the whole of it is 1·7 lakhs, and the demand for land cess amounts to Rs. 35,000. Owing to the estate being heavily encumbered, it was recently taken under the management of the Court of Wards, but it has now been handed back to the proprietor. The estate is in a great measure covered by scrub jungle, especially the portion in North Arcot District. Much firewood is sent to Madras city from these forests; and leopards, bears, and small game are fairly numerous in them. A large number of the jungle tribes of Irulas and Yanadis subsist by gathering honey, roots, and bark for sale in the neighbouring villages. The soil is not very rich, but about 140,000 acres are under cultivation.

Chandragiri Tāluk.—*Tāluk* in the north of North Arcot District, Madras, lying between 13° 24′ and 13° 47′ N. and 78° 58′ and 79° 35′ E., with head-quarters at the village of the

same name. Area, 548 square miles. It contains 231 villages and one town, the municipality of TIRUPATI (population, 15,485). Population in 1901, 113,550, compared with 114,436 in 1891. Demand for land revenue and cesses in 1903-4, Rs. 1,30,000. Chandragiri ('Moon hill') is one of the most hilly and picturesque *tāluks* in the District. The Eastern Ghāts run through the north of it and the Kārvetnagar hills occupy most of the south. It may, indeed, be said to consist of hills. These are more or less bare and rocky, but enclose narrow valleys rich with alluvial soil brought down from their sides. Its physical characteristics render it a most fertile area, the scrub jungle upon the hills retaining moisture and keeping the subsoil water at a high level, and also providing abundance of leaf manure, which the ryots are not backward in using. Some of these jungles form extensive and valuable forests.

Kārvetnagar Zamīndāri.—Ancient *zamīndāri* in the north-east of North Arcot District, Madras, lying between 13° 2′ and 13° 35′ N. and 79° 14′ and 79° 49′ E. Area, 943 square miles; number of villages, 667; population (1901), 341,240. It is held on permanent tenure under a *sanad* (grant) issued by the British Government in 1802. The whole of the *zamīndāri* is hilly except the south-east; penetrating the hills run numerous picturesque ravines or *konas*, which are well wooded and fairly stocked with game. One of the most charming of these is the Sadāsiva *kona*, about 10 miles north-east of the Puttūr station on the Madras Railway. Here a perennial stream flows eastwards by a succession of cascades, by the sides of which tree-ferns and other kinds of water-loving plants grow in profusion. The principal streams which drain the *zamīndāri* are named after the towns of Nārāyanavanam, Nagari, and TIRUTTANI, by which they flow. They are dry except during the rains, but have excellent underground springs, the water of which is tapped by means of channels and irrigates considerable areas on both banks. The soil of the estate is fertile; but much of it is covered with hill and jungle, and three-fourths of the area is uncultivable, only about 130,000 acres being under the plough. Indigo is still largely cultivated, but of late years the market for the dye has been depressed owing to the competition of its new chemical rival. From the forests of the *zamīndāri* much fuel is exported to Madras by rail. The total *peshkash* (or permanent revenue paid to Government) is 1·7 lakhs, and the cesses in 1903-4 were an additional Rs. 50,000. The gross income of the whole property averages between 6 and 7 lakhs, but it is heavily encumbered. Some

of the villages have been sold in satisfaction of decrees of the Civil Courts and now form separate properties; and the estate is so involved in debt that it was taken under the management of the Court of Wards for a time. It has now been handed back to the proprietor. Kārvetnagar, 7 miles from Puttūr railway station, is the chief town and the residence of the *zamīndār*, who has the hereditary title of Rājā. Puttūr, Nārāyanavanam, Nagari, and Tiruttani are other important places.

Puttūr Tahsīl.—*Zamīndāri tahsīl* in North Arcot District, Madras, consisting of the northern half of the KĀRVETNAGAR *zamīndāri*. Area, 542 square miles; population in 1901, 170,235, compared with 155,546 in 1891. It contains 340 villages, the head-quarters being PUTTŪR.

Tiruttani Tahsīl.—*Zamīndāri tahsīl* in North Arcot District, Madras, consisting of the southern half of the KĀRVETNAGAR *zamīndāri*. Area, 401 square miles; population in 1901, 171,005, compared with 173,151 in 1891; number of villages, 327; head-quarters, Tiruttani.

Chittoor Subdivision (*Chittūr*).—Subdivision of North Arcot District, Madras, consisting of the *tāluks* of CHITTOOR and PALMANER and the PUNGANŪRU *zamīndāri tahsīl*.

Chittoor Tāluk.—*Tāluk* in the centre of North Arcot District, Madras, lying between 13° and 13° 31′ N. and 78° 48′ and 79° 19′ E. It is he largest *tāluk* in the District, having an area of 793 square miles; and it contains one town, CHITTOOR (population, 10,893), the head-quarters of the District, and 338 villages. Population in 1901, 209,868, compared with 200,249 in 1891. The demand for land revenue and cesses in 1903–4 was Rs. 3,21,000. The *tāluk* consists of an undulating plain, broken by a large number of naked rocky hills rising abruptly from the surrounding country and covered with enormous granite boulders. The soil is good and large areas are under irrigation, and the contrast between the vivid green of the patches of cultivation and the varied hues of the rocky eminences is most picturesque.

Punganūru Tahsīl and Zamīndāri.—Estate situated above the Ghāts in the north-west corner of North Arcot District, Madras, lying between 13° 10′ and 13° 40′ N. and 78° 22′ and 79° E., and adjoining Mysore. It extends over 648 square miles, and forms a *tahsīl* in charge of a deputy-*tahsīldār* and sub-magistrate. The population in 1901 was 96,852, compared with 92,023 in 1891. It contains 564 villages and one town, PUNGANŪRU (population, 6,353), the

head-quarters and residence of the *zamīndār*. The *peshkash* and land cess in 1903-4 amounted to Rs. 81,000. The estate runs up to the Mysore plateau, and its temperature is thus considerably lower than the rest of the District. Large game is abundant, and twenty-five years ago elephants were found. An excellent breed of cattle is maintained, and sugar-cane is largely cultivated. The family of the present *zamīndār* is said to have settled in the country as far back as the thirteenth century, and its members have a long local history. During the Mysore Wars the *zamīndār* assisted Lord Cornwallis with transport and provisions, and he and his successors managed the estate for many years as lessees for the British. In 1832 the owner died without issue and a series of disputes arose. The estate eventually passed to his brother. A permanent *sanad* (grant) was bestowed by Government in 1861. The *zamīndār* belongs to the sect of Lingāyats.

Palmaner Tāluk.—*Tāluk* in the west of North Arcot District, Madras, lying between 12° 46′ and 13° 17′ N. and 78° 25′ and 78° 49′ E. Area, 439 square miles; population in 1901, 51,575, compared with 48,135 in 1891; number of villages, 91. Demand for land revenue and cesses in 1903-4, Rs. 92,000. The *tāluk* is situated upon the Mysore plateau, about 2,500 feet above sea-level. It is consequently much cooler than the lower parts of the District, and in the winter months the mornings are quite sharp. There is a large extent of jungle. Though devoid of railway communication, the *tāluk* is well provided with roads. The head-quarters are at the village of the same name.

Vellore Subdivision.—Subdivision of North Arcot District, Madras, consisting of the *tāluks* of VELLORE, GUDIYĀTTAM, and ARCOT, and the KANGUNDI *zamīndāri tahsīl*.

Vellore Tāluk.—*Tāluk* in the south of North Arcot District, Madras, lying between 12° 39′ and 12° 57′ N. and 78° 39′ and 79° 13′ E. The northern portion runs along the right bank of the PĀLĀR and is flat and open, but most of the rest is covered with numerous hill ranges. Of the total area (421 square miles) nearly half is under forest. The population in 1901 was 200,541, compared with 192,937 in 1891. It contains 149 villages and two towns: namely, AMBŪR (population, 15,903) and VELLORE municipality (43,537), the head-quarters of the *tāluk*. The demand for land revenue and cesses in 1903-4 amounted to Rs. 2,53,000.

Gudiyāttam Tāluk.—*Tāluk* in the south of North Arcot District, Madras, lying between 12° 42′ and 13° 5′ N. and

78° 35′ and 79° 16′ E., with an area of 447 square miles. It contains one town, GUDIYĀTTAM (population, 21,335), the head-quarters, and 183 villages. Population rose from 176,709 in 1891 to 195,665 in 1901. The demand for land revenue and cesses in 1903–4 amounted to Rs. 3,27,500. The *tāluk* is a long strip of land lying on the northern bank of the Pālār, opposite to the Vellore *tāluk* on the other side of the river. The Eastern Ghāts throw many spurs into its western portion, which is thus mainly composed of hills interspersed with valleys. The soil is generally good, being a mixture of sand and red clay.

Arcot Tāluk.—*Tāluk* on the eastern boundary of North Arcot District, Madras, lying between 12° 38′ and 12° 57′ N. and 79° 11′ and 79° 45′ E., with an area of 432 square miles. It contains one town, ARCOT (population, 10,734), the head-quarters, and 258 villages. Population rose from 176,878 in 1891 to 180,564 in 1901. The demand for land revenue and cesses in 1903–4 amounted to Rs. 4,81,000. Almost the whole of the *tāluk* consists of a flat and undiversified plain, but on the extreme west and east are a few insignificant, barren hills. The soil is poor, being very gravelly.

Kangundi Tahsīl.—*Zamīndāri tahsīl* in the south-west corner of North Arcot District, Madras, lying between 12° 35′ and 12° 56′ N. and 78° 14′ and 78° 35′ E., with an area of 347 square miles. It comprises the Kangundi *zamīndāri*. The head-quarters are now the village of Kuppam, which is also the residence of the *zamīndār*; but the *tahsīl* gets its name from the village of KANGUNDI, which was formerly the chief town in this part of the country. The population rose from 54,052 in 1891 to 64,446 in 1901, the increase during the decade (19 per cent.) being the highest in any portion of the District. The increase was largely due to the existence of several gold-mines, a continuation of those in the adjoining Kolār gold-fields, in the part which borders on Mysore State. The number of villages is 268. The *peshkash* (including cesses) payable to Government amounted in 1903–4 to Rs. 29,500.

Arni Subdivision.—Subdivision of North Arcot District, Madras, consisting of the *zamīndāri tahsīl* of ARNI and the *tāluks* of POLŪR and WANDIWĀSH.

Arni Tahsīl.—*Zamīndāri tahsīl* in the south of North Arcot District, Madras, lying between 12° 29′ and 12° 49′ N. and 79° 7′ and 79° 22′ E., and comprising the Arni *jāgīr*. The area is 184 square miles, or less than any other in the District. Number of villages, 139; population in 1901, 96,542, com-

pared with 91,730 in 1891; head-quarters, ARNI (population, 12,485); *peshkash* payable to Government (including cesses), Rs. 21,000. The *jāgīr* was granted to an ancestor of the present holder early in the seventeenth century, as a reward for military services, by the Marāthā chief Shāhjī during his expedition into the Carnatic.

Polūr Tāluk.—Southern *tāluk* in North Arcot District, Madras, lying between 12° 20′ and 12° 45′ N. and 78° 51′ and 79° 22′ E. Area, 596 square miles. Population, 155,673 in 1901, as compared with 139,701 in 1891. The *tāluk* contains 170 villages and one town, POLŪR (population, 9,206), the head-quarters. The demand for land revenue and cesses in 1903-4 amounted to Rs. 3,02,000. The *tāluk* is essentially a mountainous area, a large part of it being occupied by the JAVĀDI HILLS. The forests have great potential value, and yield a considerable amount of timber and other produce.

Wandiwāsh Tāluk.—South-east *tāluk* of North Arcot District, Madras, lying between 12° 21′ and 12° 41′ N. and 79° 19′ and 79° 46′ E. Area, 466 square miles; population in 1901, 185,252, compared with 177,723 in 1891; number of villages, 284; demand for land revenue and cesses in 1903-4, Rs. 5,05,000. It consists of level plain, diversified only by a very few rocky hills. The soil is poor and the country is but thinly wooded. The head-quarters are at WANDIWĀSH.

Ambūr.—Town in the Vellore *tāluk* of North Arcot District, Madras, situated in 12° 48′ N. and 78° 43′ E. Population (1901), 15,903. It is a well-built and compact place, standing on the south bank of the Pālār, about 30 miles from Vellore and 112 miles (by rail) from Madras, at the foot of the Kadapanattam Pass leading into Salem. Ambūr is a station on the Madras Railway, and an excellent road connects it with Vellore and Salem. It possesses a considerable trade in oil, *ghī*, and indigo, which the Labbai merchants collect here for export to Madras. The almost inaccessible Ambūr Drug towers above the town, and, from its position commanding an important pass into the CARNATIC, has been several times the scene of severe fighting. In 1749 the first pitched battle in the long wars of the Carnatic was fought under its walls, when Anwar-ud-dīn, the Nawāb of Arcot, was defeated by Muzaffar Jang. This encounter is remarkable as being the first occasion when European troops played a conspicuous part in Indian warfare, and is memorable also for the effect it had on the subsequent course of events.

Arcot Town.—Head-quarters of the *tāluk* of the same

name in North Arcot District, Madras, situated in 12° 54′ N. and 79° 20′ E., on the right bank of the Pālār, 2 miles from Rānipet railway station on the Rānipet branch of the Madras Railway. Population (1901), 10,734. The interest of the place is almost entirely historical, and it now possesses no industries or trade of importance and is fast declining. Formerly it was the capital of the powerful Nawābs of the Carnatic, who are consequently often spoken of in history as the Nawābs of Arcot. In 1712, in order to facilitate operations against Mysore, Saādat-ullah Khān, commanding the Delhi forces, transferred his head-quarters to Arcot; and for the twenty years of his power, and during the time of his successor Dost Alī, it remained the seat of government. But in 1740 the Marāthā army of Rāghuji Bhonsla overran the District; Dost Alī was killed in battle; Safdar Alī, who succeeded Dost Alī, was murdered in 1742; and his successor Saiyid Muhammad shared the same fate in 1744. During the next seven years Arcot changed hands as many times, and in 1751 an English garrison occupied the fort. The capture and brilliant defence of Arcot in that year by Clive with a small force of 200 Europeans and 300 natives opposed to the large army of Rājā Sāhib, the Nawāb's son, consisting of 120 French, 2,000 regular native troops, 300 cavalry, and 5,000 irregular foot-soldiers, is among the most remarkable feats of British arms in India. In 1758 Arcot was surrendered to the French under Lally, and two efforts made in the following year to regain possession of it failed. In 1760, however, Colonel Coote laid siege to the fort, and after a bombardment of seven days took it. For the next twenty years it remained in the hands of the Nawāb Muhammad Alī, the ally of the English; but when in 1780 the Mysore War extended to the District, Arcot was surrendered to Haidar Alī, who held it till 1782. Tipū Sultān succeeded to Haidar's conquests, and after destroying the fortifications abandoned the town. In the cession of the Carnatic to the English in 1801, Arcot was included. The descendants of the Nawāb, the head of whom is styled the Prince of Arcot, live in Madras, but still hold property in this neighbourhood.

The town was formerly surrounded by a high rampart nearly 5 miles in circumference, 24 feet broad at the base and 12 feet at the top, and faced with a thick masonry wall. This had five gates, the chief of which was the Delhi Gate, which led out upon the bed of the Pālār. The whole is now in complete ruin, but the Delhi gateway still stands and is an interesting

relic. It is surmounted by a small chamber, from which a pretty view of the river and opposite bank may be obtained. A tradition of doubtful authenticity asserts that this was a favourite resort of Clive. The palace is now a ruin, and of the fort hardly a trace remains. Between the old palace and the fort stands the tomb of Nawāb Saādat-ullah Khān, a domed structure about 50 feet in height and built, without much ornament, of greenstone, each block being beautifully cut and fitted into its place. A monthly allowance is made by Government for the decoration of the tomb and the performance of religious ceremonies. Close to the tomb is the principal mosque, the Jāma Masjid; and within the town are twenty-two other places of Muhammadan worship, all largely attended, besides many other notable tombs. Among the latter that of the *fakir* Tipū Aulia is regarded with particular veneration by Muhammadans.

Arkonam.—Town in the Wālājāpet *tāluk* of North Arcot District, Madras, situated in 13° 5′ N. and 79° 40′ E. It has sprung into importance only since it became a railway junction. Here the north-west and south-west lines of the Madras Railway meet, and here also is the terminus of the branch of the South Indian Railway which runs from the main line at Chingleput. Population (1901), 5,313, many of whom are railway employés. The town is a Union under the Local Boards Act, and the head-quarters of a deputy-*tahsīldār* and sub-magistrate.

Arni.—Town in North Arcot District, Madras, situated in 12° 41′ N. and 79° 17′ E. It is the head-quarters of a Deputy-Collector and other officials; population (1901), 12,485. The most interesting building is the fort, an almost square structure which has been dismantled to a great extent. Until thirty years ago, Arni was a military station and at one time a very large one, as the long lines of deserted barracks testify. These buildings are fast falling into disrepair, but portions are still used as public offices. There are two old European cemeteries near the western walls. An imposing monument in the shape of a high column stands on one side of the parade ground; it was erected, as an inscription shows, by an officer of the garrison in memory of a brother officer whom he had shot in a duel. At the north-west angle of the enclosure is a fine old temple somewhat recalling that in the Vellore fort, though it does not contain such excellent sculpture. A considerable industry in the manufacture of silk and cotton fabrics is carried on in the town.

Bāpanattam.—Village in the Palmaner *tāluk* of North Arcot District, Madras, situated in 13° 5′ N. and 78° 41′ E., 17 miles from Palmaner. It is noteworthy for its extraordinary collection of prehistoric kistvaens, which are called by the natives the temples of the Five Pāndavas. There are others elsewhere in the *tāluk*, but nowhere are they so numerous as near this village. A few of them were explored by Lieut.-Colonel Branfil of the Trigonometrical Survey, who described the result in a paper in vol. x of the *Indian Antiquary*. They are of unusual interest from the size, shape, and arrangement of the slabs of which they are composed, as well as from their great number. It has been suggested that these kistvaens are tombs of the Kurumbas, a tribe who are still very numerous in this neighbourhood and were once, according to tradition, a powerful clan. They are sometimes called *kurumbarkudi* ('Kurumbas' houses') in Tamil.

Chandragiri Town.—Head-quarters of the *tāluk* of the same name in North Arcot District, Madras, situated in 13° 35′ N. and 79° 19′ E., on the right bank of the Swarnamukhi river. Population (1901), 4,923.

Historically, Chandragiri has much interest. To its fort the fallen monarchs of the great empire of Vijayanagar fled after their power had been crushed at the battle of Tālikotā in 1565, and here for some years they maintained a pretence of their former state. The fort is said to have been built in A.D. 1000 by Immadi Narasimha Yādava Rāyalu, one of the kings who reigned at Nārāyanavanam in the Kārvetnagar *zamīndāri*, and to have been afterwards improved by the Vijayanagar kings. It fell in 1646 into the power of the Sultān of Golconda. In 1758 it was held by Abdul Wahāb Khān, brother of the Nawāb of the Carnatic. In 1782 Haidar Alī compelled the place to surrender, and it remained subject to Mysore until the Treaty of Seringapatam in 1792.

The fort is built on a huge granite rock rising about 600 feet above the surrounding country, and both from its site and fortifications must in former times have been impregnable by storm. A large space upon the southern side of the hill is enclosed by strong walls, now in ruins, surrounded by a ditch once fed by a natural spring, but now almost dry. Within the walls stand the remains of the palace of the Rājās, several small temples, the ruined mud walls of the Muhammadan palace, and some *mantapams*. The main building is about 150 feet long. It faces south, with an imposing and well-balanced façade of three storeys. The sky-line is pleasingly

broken by Hindu terminations, resembling the tops of *gopurams* or towers, the largest surmounting the *darbār* hall. This apartment measures 21 feet square. It is surrounded by a colonnade, and rises through two storeys in such a way that the larger quantity of light comes through the upper tier of arches, which thus forms a sort of clerestory. According to local tradition, the original document granting to the East India Company the site of Fort St. George was signed here in 1639[1]. The palace is maintained in good order by the Public Works department, and is now used as a travellers' bungalow.

The modern town of Chandragiri is neatly built and lies to the east of the hill on which stands the fort. The old town has almost disappeared and its site has been converted into fertile fields. The surrounding country is very productive and the scenery charming. Interesting archaeological remains abound, consisting of deserted temples, great reservoirs, and finely carved *mantapams* or porches.

Chittoor Town ('little town').—Head-quarters of North Arcot District, Madras, and of the *tāluk* of the same name, situated in 13° 13′ N. and 79° 6′ E., in the valley of the Poini river, on the South Indian Railway 18 miles north of Kātpādi junction, and 100 miles by road from Madras. Population (1901), 10,893. Being 990 feet above the sea, during the winter months it is pleasantly cool; but in former years it suffered from more than one outbreak of virulent fever, and in consequence the head-quarters of some of the District staff were removed to VELLORE. The place was a military station until 1874, but is now, except as the official centre, of no importance. It contains most of the usual courts and offices, and a Roman Catholic chapel.

Damalcheruvu Pass.—Pass in the Chandragiri *tāluk* of North Arcot District, Madras, situated in 13° 29′ N. and 79° 3′ E. It leads from the Carnatic to the Mysore plateau, and was consequently the scene of frequent fighting in the wars of the eighteenth century. The Marāthā chief Sivajī made his first descent upon the Carnatic by this route. Here

[1] The original grant of 1639 was given by the Naik of Wandiwāsh or Punamallu, from whom the present *zamīndār* of Kālahasti claims to be descended. This was apparently confirmed soon afterwards by his superior, the Vijayanagar king, then residing at Chandragiri. The oldest document from the Vijayanagar king, of which a translation now exists, is a confirmatory grant dated 1645. This was certainly the occasion of the first visit of any Englishman to the king. W. Foster, *The Founding of Fort St. George* (1902).

in 1740 was fought the battle between the Marāthās and the Nawāb Dost Alī, in which the latter was defeated and killed. A peculiar earthen embankment crosses the road which leads through the pass, and continues over the hills on either side. It is said to extend to Tirupati on the one side and to Yelagiri in Salem District on the other, and to have been built long ago by two neighbouring kings to mark the boundaries of their realms.

Gudiyāttam Town.—Head-quarters of the *tāluk* of the same name in North Arcot District, Madras, situated in 12° 58′ N. and 78° 53′ E., 3 miles north of the Pālār and about the same distance from the railway station, which is 96 miles from Madras and 318 from Calicut. Population (1901), 21,335. Gudiyāttam was constituted a municipality in 1885. The municipal receipts and expenditure during the ten years ending 1902–3 averaged Rs. 16,600 and Rs. 16,000 respectively. In 1903–4 the income was Rs. 21,200, the chief source being the house and land taxes; and the expenditure was Rs. 21,400. A scheme for providing the town with a water-supply is under consideration. Gudiyāttam is a clean, well-arranged town, most of the houses being tiled and the streets well laid out. The chief industry is weaving; but Labbais and Kanarese merchants carry on a brisk trade, the former in jaggery, hides, tamarind, tobacco, and *ghī*, and the latter in petty shopkeeping and money-lending. Every Tuesday a large cattle fair takes place which rivals that of Rānipet. Some 500 head of cattle are usually exposed for sale, besides the goods found in all ordinary markets.

Javādi Hills.—A detached group of hills, in Madras, lying between 12° 18′ and 12° 54′ N. and 78° 35′ and 79° 11′ E., and for the most part situated in the south-west corner of North Arcot District, though spurs run down into South Arcot and Salem. In North Arcot some of the peaks attain an elevation of over 3,000 feet. They are there separated from the Eastern Ghāts by the broad valley of the Pālār. This narrows in the neighbourhood of Ambūr, where the Javādis and the Eastern Ghāts almost join, but it widens again as it leaves North Arcot and passes into Salem. The Javādis are made up of numerous small plateaux, which contain in North Arcot 110 hamlets, or clusters of huts, inhabited by a Tamil-speaking hill tribe called Malaiyālis. These people number nearly 10,000; and though they appear to be ethnologically of the same stock as the Tamils of the low country, their long isolation has led to divergences in their ways, and they

possess certain peculiar customs of their own. The climate of the hills is malarious at certain seasons, but does not merit the utter condemnation generally accorded it. Spurs from the main range extend in a north-easterly direction as far as the town of VELLORE, gradually declining in height as they approach the Pālār. One detached peak, Kailāsagarh, 2,743 feet in height, is only 6 miles distant from Vellore, and the small bungalow upon its summit forms a pleasant retreat during the hot season. The Javādis used to be covered with fine forest, but this has been almost entirely destroyed. Much damage was done when the construction of the south-west line of the Madras Railway was in progress, enormous quantities of timber being at that time felled for sleepers. Careful conservation is now doing much to remedy the recklessness of past years. Game is fairly abundant in these hills. Bison, *sāmbar*, spotted deer, leopards, and an occasional tiger are found in them. The Javādis are one of the only two tracts in the Presidency where the cultivation of the intoxicating *gānja* (*Cannabis sativa*) is permitted under licence. A little coffee cultivation has been attempted on the South Arcot side, and the produce is sold in the local markets. There are relics of Hindu temples, with some inscriptions, at Kovilanūr on the way from Patrakād to Komatiyūr, and signs of former occupation by a civilized nation.

Kālahasti Town.—Town in the *tahsīl* and *zamīndāri* of the same name in North Arcot District, Madras, situated in 13° 45′ N. and 79° 42′ E., with a station on the South Indian Railway, on the right bank of the Swarnamukhi at the extremity of the Nagari hills. Population (1901), 11,992. It is the residence of the Rājā of Kālahasti, and the head-quarters of the deputy-*tahsīldār* and sub-magistrate. A large number of the inhabitants are in the employ of the *zamīndār*, whose residence, an imposing-looking building, faces the eastern street of the old town. The approach to the town from the river is through the last gap in the Nagari hills, which are here considered so holy that the quarrying of stone or gravel is forbidden. Kālahasti is a thriving town, carrying on a brisk trade in grain, bangles, and many other articles. A good deal of cotton stuff is woven in the suburbs, and the hand-printed and hand-painted cotton fabrics enjoy a high reputation. Some of the latter gained a bronze medal at the Delhi Darbār Exhibition of 1903. The town is famous for its Siva temple, wherein a festival takes place annually during February and March.

Kangundi Village.—Village in the *zamīndāri* and *tahsīl* of the same name in North Arcot District, Madras, situated in 12° 46′ N. and 78° 27′ E. Population (1901), 637. It was once the chief place in the neighbourhood and the residence of the *zamīndār* of Kangundi, but has been depopulated by fever and famine. It lies at the base of a precipitous hill, crowned with the ruins of a fort which must have been a place of great strength. The *zamīndār's* old palace is also an imposing pile.

Kāveripāk.—Village in the Wālājāpet *tāluk* of North Arcot District, Madras, situated in 12° 54′ N. and 79° 28′ E. Population (1901), 5,566. It is known in history as the scene of the victory gained by Clive over Rājā Sāhib and his French allies in 1752. It is a flourishing place, lying to the south of the embankment of the large tank to which it gives its name. A small fort formerly stood near, but this has been destroyed. The tank is the most extensive in the District, its embankment being about 4 miles long. Upon this is built a little bungalow, with a view over the water towards the Sholinghur hills. Wild duck and other water-fowl are abundant. The tank, which is fed by a channel from the PĀLĀR, is rarely dry, but has much silted up in the course of years.

Māmandūr.—Village in the Arcot *tāluk* of North Arcot District, Madras, situated in 12° 45′ N. and 79° 40′ E. Population (1901), 1,884. It is chiefly remarkable for its rock caves. The embankment of the large tank to which the village gives its name rests upon two low hills, and upon the eastern face of the more southerly of these are the excavations. They were probably the work of the Jains; and possibly a party of monks from Conjeeveram, which is only 7 miles distant, may here have hollowed out for themselves a retreat with narrow cells into which each might retire to indulge in uninterrupted meditation.

Padavedu.—Village in the Polūr *tāluk* of North Arcot District, Madras, situated in 12° 40′ N. and 79° 7′ E. Population (1901), 2,382. This deserted place is one of the most interesting in the District. Though it now contains few inhabitants, tradition says that it was the capital of a powerful dynasty which for many hundreds of years held sway in this part of the country. Perhaps it was a chief city of the Kurumbas, who are declared to have been of old a powerful clan. It was 16 miles in circumference and full of the remains of temples, rest-houses, and fine private residences. Its extent may be judged by the fact that the present villages

of Sandavāsal, where the fair or *sandai* of the old town was held, and Pushpagiri, the site of its flower market, are 4 miles apart. The place is traditionally declared to have been entombed by a shower of dust and stones which overwhelmed the whole of its magnificent buildings. Jungle now covers almost the whole area. Two extensive but ruined forts stand upon the plain, and another upon a peak of the Javādi Hills which overlooks the village. The two principal temples in Padavedu are dedicated, one to a goddess called Renukāmbāl, and the other to Rāmaswāmi. The former is the more celebrated, and is still visited by large crowds on Fridays in the month of Adi.

Palmaner Town.—Head-quarters of the *tāluk* of the same name in North Arcot District, Madras, situated in 13° 13′ N. and 78° 46′ E. Population (1901), 4,850. Palmaner stands on the plateau of Mysore at a height of 2,247 feet above sea-level, and is much cooler than the lower parts of the District. It has accordingly always been a sanitarium for the North Arcot officials, and before the route to the Nīlgiris was opened up was resorted to also by Europeans from Madras. It contains several excellent bungalows. Some of the gorges and valleys in the hills round about are beautiful. A favourite resort is Gangamma's valley, where a small stream falls from a height of about 200 feet into a deep pool shut in on all sides but one by precipitous walls of rock.

Polūr Town.—Head-quarters of the *tāluk* of the same name in North Arcot District, Madras, situated in 12° 31′ N. and 79° 7′ E. Population (1901), 9,206. It stands about 2 miles from the northern bank of the Cheyyār, and east of some hills. Between these is built the embankment of the Polūr reservoir, which is fed by the waters of the Manjalār. The Sampatgiri hill near by is topped by a holy temple, and there is another shrine in the town. A small ruined fort, without any history, stands not far off. The town is poorly built, with narrow and ill-arranged streets, but has a brisk trade in grain.

Poini.—A river of North Arcot District, Madras, which rises in the hills of the Chandragiri *tāluk* in 13° 34′ N. and 79° 6′ E. It flows almost due south, and after receiving the waters of numerous smaller streams finally joins the Pālār not far from Arcot, after a course of about 45 miles. Its waters are largely used for irrigation, and it is crossed by a dam, 792 feet in length from wing to wing, which was built in 1853. The dam was much damaged in 1874 by the same flood which

breached the Pālār dam, and was subsequently reconstructed. During the south-west monsoon the Poini has a more regular supply of water than the Pālār. The area commanded by the dam is 26,500 acres, of which 22,000 acres were irrigated in 1903-4. The supply might be further increased during the north-east monsoon if the storage capacity of the reservoirs which are fed by it were enlarged; but during the south-west monsoon all the surplus water running over this dam has to be sent down to the Pālār barrage, where the supply is often deficient.

Punganūru Town.—Head-quarters of the *tahsīl* and *zamīndāri* of the same name in North Arcot District, Madras, situated in 13° 22′ N. and 78° 35′ E., on a plateau 2,000 feet above sea-level. Population (1901), 6,353. The town is prosperous, and owing to its elevation its temperature is much less torrid than that of the lower parts of the District. A large cattle fair is held in April. The *zamīndār* has set aside a portion of his palace for the use of European travellers, and the building possesses a museum containing a curious collection of life-size models representing natives of various castes in their usual costumes. A mile from the town are the ruins of a large Roman Catholic chapel bearing the date 1780.

Rānipet ('Queen's town').—Town in the Wālājāpet *tāluk* of North Arcot District, Madras, situated in 12° 56′ N. and 79° 20′ E., on the north bank of the Pālār river. Population (1901), 7,607. The place comprises the European quarters of Arcot, and is said to have been founded about the year 1713 by Saādat-ullah Khān, in honour of the youthful widow of Desing Rājā of Gingee, who committed *satī* when her husband was slain by Saādat-ullah's forces. The place was of no importance till it became a British cantonment, when it was made a large cavalry station and rapidly extended. It is now the head-quarters of the divisional officer. The Roman Catholics and the American Mission have churches in the town. There is a large dispensary; and every Friday a fair is held on the old parade ground north of the town, where a larger number of cattle are sold than in any other market in the District. The Naulākh Bāgh or 'nine lakh garden' of mangoes and other trees, planted by one of the early Nawābs of Arcot, is near the town.

Sholinghur.—Town in the Wālājāpet *tāluk* of North Arcot District, Madras, situated in 13° 7′ N. and 79° 25′ E. Population (1901), 6,442. The station of the same name on the Madras Railway is 7¼ miles from the town. The name is

said to be a contraction of the words Chola-linga-puram, and to have been given to it because one of the Chola kings here found a natural *lingam* and built a shrine over it called the Choleswara or Sholeswara temple. The town is extensive, and a brisk trade is carried on in its bazars and at its weekly fair. But the place derives its chief importance from its temples. Besides that of Sholeswara, another shrine within the town is dedicated to Bhaktavatsala. This is of fine proportions and is thought to have been built by one of the Vijayanagar kings. The other chief temples lie outside the town. The most celebrated is that of Narasimhaswāmi, situated upon the summit of the loftiest hill in the neighbourhood. From it a magnificent view may be obtained of the country round, with its reservoirs and fertile cultivation. Upon a lower hill to the east is a temple to Anjaneyaswāmi which, though not so pretentious as its neighbour architecturally, enjoys an equally wide reputation. Women suffering from dementia or hysteria (who are supposed to be possessed by evil spirits) are brought to it to be cured. Another fine shrine lies below the Narasimhaswāmi hill. It is now in ruins, having been struck, it would appear, by lightning, and its finely carved columns lie about in confusion. There are very many sacred pools or *tīrthams* round Sholinghur, the chief being the Brahma *tīrtham*, in which people bathe on Thursdays. In the neighbourhood of Sholinghur, in 1781, was fought the battle between Sir Eyre Coote and Haidar Alī in which the latter lost heavily. Two large Muhammadan tombs by the side of the road on the south of the town mark the spot where the bodies of the slain of the Mysore army were interred in two common graves.

Tirumala (or **Upper Tirupati**).—Tirupati, in the *tāluk* of Chandragiri in North Arcot District, Madras, is celebrated throughout Southern India for the temple on Tirumala, the holy hill, 2,500 feet high. This place, often known as Upper Tirupati, is 6 miles distant from Tirupati town and situated in 13° 41′ N. and 79° 21′ E. The shrine is dedicated to Venkateswaraswāmi, an incarnation of Vishnu, and is considered so holy that formerly no Christian or Musalmān was allowed even to ascend the hill. Since 1870, however, European magisterial and police officers go up occasionally on duty, and visitors are sometimes allowed there as a special case, provided that they bring no low-caste servants, and have obtained the special permission of the District Magistrate and the *mahant* or trustee. But no European has ever entered the

temple itself, and there is no description on record of its interior. From all parts of India thousands of pilgrims annually flock to Tirupati with rich offerings to the idol. Up to 1843 the temple was under the management of Government, which derived a considerable revenue from these offerings, but now they are made over to the *mahant*, who is also the head of a religious *math* (or monastery) situated in the town. During the first six years of British rule the income of the temple averaged upwards of 2 lakhs, but the amount is said to have decreased of late. The hill on which the temple stands possesses a number of the usual holy bathing-places, some of which are picturesquely situated.

Tirupati Town.—Town in the Chandragiri *tāluk* of North Arcot District, Madras, situated in 13° 38′ N. and 79° 24′ E., in the valley, about 3 miles broad, which divides the Tirupati hills from those of the Kārvetnagar *zamīndāri*. Population (1901), 15,485. It is a flourishing and busy place, and is crowded at all times with pilgrims to the famous shrine on TIRUMALA. The town contains several important temples under the management of the *mahant* of this shrine. A municipality was constituted in 1886. The municipal receipts and expenditure during the ten years ending 1902–3 averaged Rs. 39,100 and Rs. 59,700 respectively. In 1903–4 the income was Rs. 18,200, chiefly derived from house and land taxes and water-rate; and the expenditure was Rs. 21,400. The apparent excess of expenditure over income is due to the construction of waterworks from funds previously contributed by Government. The brass industry of the town is well-known; a large encrusted oval tray made here gained a first prize and silver medal at the Delhi Darbār Exhibition of 1903. The wood-carving also deserves mention.

Tiruttani Village.—Head-quarters of the *zamīndāri tahsīl* of the same name in the KĀRVETNAGAR *zamīndāri* in North Arcot District, Madras, situated in 13° 11′ N. and 79° 37′ E., with a station on the Madras Railway. Population (1901), 3,697. A hill temple, dedicated to Subrahmanyaswāmi, one of the sons of Siva, is largely frequented by pilgrims, and is held to be next in importance to the famous shrine at TIRUMALA near TIRUPATI.

Vellore Town.—Head-quarters of the *tāluk* of the same name in North Arcot District, Madras, situated in 12° 55′ N. and 79° 9′ E., on the right bank of the PĀLĀR, with a station on the Villupuram branch of the South Indian Railway, 4 miles from the Kātpādi junction on the south-west line of the Madras

Railway, and 87 miles from Madras. Population (1901), 43,537, having decreased somewhat in recent years. Vellore is the largest town in the District, and was constituted a municipality in 1866. The municipal receipts and expenditure during the ten years ending 1902–3 averaged Rs. 55,100 and Rs. 59,200 respectively. The deficit was met by a loan from Government. The income in 1903–4 was Rs. 72,500, and the expenditure Rs. 65,600. Of the former, Rs. 17,500 was contributed by Government, and an almost equal amount was derived from house and land taxes, and from market fees and tolls. Plans and estimates for a water-supply to cost 3½ lakhs are now under scrutiny.

The town is the head-quarters of the divisional officer, District Medical and Sanitary officer, Executive and District Board Engineers, Assistant Commissioner of Salt, Abkāri, and Customs, Deputy-Inspector-General of Police, Assistant Superintendent of police, and Government Chaplain. It also contains the police training-school, the Arcot Mission College, and a high school. There is a large trade in grain, and the cultivation of sweet-scented flowers is one of the industries of the place, many bales of these being daily sent by rail to Madras.

The chief object of interest in Vellore is the fort and the temple therein. The former is one of the most perfect specimens of military architecture in Southern India, and the latter contains sculptures which by some are thought to rival those of Madura. The fort is declared by local tradition to have been built about 1274 by Bommī Reddi, a refugee chief from Bhadrāchalam on the banks of the Godāvari, and handed over to the Rājās of Vijayanagar. In reality, however, it appears to have been constructed not earlier than the seventeenth century. About the middle of that century the Sultān of Bijāpur seized Vellore. In 1676 the Marāthās captured it after four and a half months' siege. In 1708 Daud Khān from Delhi ousted the Marāthās. In 1710, when it was, according to Orme, the strongest fortress in the CARNATIC, it was given by Dost Alī to his son-in-law. The latter's son, Murtaza Alī, murdered the Nawāb Safdar Alī here in 1742. For more than twenty years the fort was the stronghold of Murtaza Alī, who defied the authority of his lawful chief, the Nawāb of Arcot, and his English allies. Shortly after 1760 Vellore was occupied by an English garrison. In 1780 Haidar Alī invested the place, which held out against overwhelming numbers and innumerable difficulties. A dozen times in the course of the siege there was not rice

for three days' consumption, and all the energies of the Madras Government and of Sir Eyre Coote were directed to throwing in supplies. An assault, which was most gallantly and persistently made, was repulsed, and the siege reduced to a blockade which the garrison, although reduced to great straits, withstood for two years, till finally it was raised by the advance of an army from Madras and Haidar's death. In 1791 Vellore was the base for Lord Cornwallis's march on Bangalore. After the fall of Seringapatam (1799), the family of Tipū Sultān were detained here; and to their intrigues is attributed the mutiny of 1806, when most of the officers and a large number of European soldiers were massacred by the sepoys. The revolt was promptly put down by Colonel Gillespie, who was stationed at Arcot, and the Mysore princes were removed to Bengal.

The fort is surrounded by a ditch, which is supplied with water by a subterranean drain connecting it with a large reservoir near the railway station. The old entrance was by a winding roadway with massive gates protected by a drawbridge; but a straight road has now been cut through the rampart. On the south side a footway also crosses the ditch on a stone causeway. There is no other means of entrance across the ditch. The fort contains a church and several other buildings now occupied by public offices. The temple, formerly used for many years as an arsenal, is a most interesting structure. The best sculpture is found in the porch on the left of the entrance, which contains monolithic pillars of great beauty and delicacy of execution. It is said that the East India Company once proposed to send the building to the Prince Regent to be erected at Brighton.

Wālājāpet Town.—Head-quarters of the *tāluk* of the same name in North Arcot District, Madras, situated in 12° 56′ N. and 79° 22′ E., 3 miles north of the Pālār river, and 68 miles from Madras. It is a decaying place, the population in 1901 (10,067) being less than it was thirty years before. It was constituted a municipality in 1866. The municipal receipts and expenditure during the ten years ending 1902–3 averaged Rs. 14,700 and Rs. 14,400 respectively. In 1903–4 they were both about Rs. 17,000. School fees and the house and land taxes form the principal sources of income. The town is remarkably well built and neatly arranged. It was once the trade centre of the District, and its decline is due to the opening of the Madras and South Indian Railways, neither of which touches it, and both of

which have led commerce to other rivals. Weaving in silk, cotton-dyeing, carpet-making, and the manufacture of oils chiefly employ the people. The satin cloths of the town are still excellent, but the carpets have been spoilt by the introduction of aniline dyes.

Wandiwāsh Town.—Head-quarters of the *tāluk* of the same name in North Arcot District, Madras, situated in 12° 31′ N. and 79° 36′ E., 19 miles from Acharapākkam station on the main line of the South Indian Railway. Population (1901), 5,971. Wandiwāsh is historically interesting as the scene of several important operations in the Carnatic Wars of the eighteenth century. The fort belonged to a member of the family of the Nawāb of Arcot. In 1752 it was attacked by Major Lawrence, and in 1757 Colonel Anderson destroyed the town but failed to capture the fort. The French garrison twice in that year repulsed the English. A more energetic attack under Brereton in 1759 was also unsuccessful. Immediately after this the French soldiers mutinied, and, though they were eventually pacified, the fort surrendered to Coote before the end of the year. In 1760 the French commanded by Lally, with 3,000 Marāthās under Bussy, appeared before the town, and in the pitched battle that ensued they were utterly routed by Coote, and Bussy was taken prisoner. This victory was in its consequences the most important ever won over the French in India. In 1780 Lieutenant Flint by a bold stratagem saved the fort from falling into the hands of Haidar Alī, and with very inadequate means held it for nearly three years against every device of the enemy. Twice he was relieved by Sir Eyre Coote, and twice at least he repelled most vigorous assaults.

SALEM DISTRICT

Boundaries, configuration, and hill and river systems.

Salem District.—An inland District in the south of the Madras Presidency, lying between 11° 1′ and 12° 54′ N. and 77° 29′ and 79° 2′ E., with an area of 7,530 square miles. It is bounded on the north by Mysore and North Arcot; on the east by North and South Arcot and Trichinopoly; on the south by Trichinopoly and Coimbatore; and on the west by Coimbatore and the State of Mysore.

Salem is made up of three distinct tracts of country, which were formerly known as the Bālāghāt, the BĀRAMAHĀL, and the Tālaghāt. The Bālāghāt, consisting of the Hosūr *tāluk*, is situated on the Mysore table-land and is the most elevated portion of the District, the greater part of it being 3,000 feet above sea-level. The Bāramahāl is the next step in descent, and its extensive plain comprises the Krishnagiri, Dharmapuri, Tiruppattūr, and Uttangarai *tāluks*. Of these, Krishnagiri slopes from 2,000 down to 1,300 feet, which is the general level of the other three. An almost unbroken chain of hills, traversing the District a little south of its centre from east-south-east to west-north-west, separates this tract from the Tālaghāt. The latter, comprising the Salem, Atūr, Nāmakkal, and Tiruchengodu *tāluks*, is, as its name imports, below the Eastern Ghāts, and descends from a maximum of about 1,200 feet in the Salem *tāluk* to the level of the plains of the Carnatic on the east and south. The southern Tālaghāt is marked by three most striking masses of rock, all alike more or less bare of vegetation: namely, the walled and battlemented height of NĀMAKKAL, the crescent-topped hill-fortress of TIRUCHENGODU, and the great, square, white mass of SANKARIDRUG. From it, over a saddle on the north-western base of the KOLLAIMALAIS, an unsuspected *ghāt*, guarded by a huge statue of Hanumān, descends into the gardens of Nāmagiripet and Rāsipur. Emerging from this valley, which is shut in by the Bodamalais, one reaches the higher plateau of the northern Tālaghāt, studded from end to end with numerous isolated hills. Particularly striking are the serrated ridge of the KANJAMALAI, outlined sharply against the south-western sky, and the peaks of the Godumalai which rise boldly on the east towards the

Atūr valley. Much mineral wealth lies hidden in these hills; their iron is exceedingly rich, and valuable beds of white magnesite, which local tradition declares to be the bones of the legendary bird Jatāyu, crop out among the hills on either side of the railway before it enters SALEM City.

The great mountain screen above referred to, which stretches across the District with the SHEVAROYS as its centre, is pierced by four passes giving access from the Tālaghāt to the Bāramahāl. The easternmost of these is the Kottapatti Pass, leading to the village of the same name at the head of a lovely valley stretching away to the historic *ghāt* of Changama (Chengam), through which flows the trade from the north into the ancient mart of TIRUVANNĀMALAI. This Kottapatti Pass separates the Tenandamalai from the range of the KALRĀYANS. On either side of the Shevaroys is a *ghāt* leading to the two great landmarks of the Bāramahāl country. The trunk road over the eastern, or Manjavādi *ghāt*, passes to the left of the Chitteri hills and winds round Harūr towards the sacred heights of Tīrthamalai (3,500 feet). On the west, the railway, toiling up the Morūrpatti *ghāt*, keeps the Vattalamalai to the left and runs past the sharp peak of Mukkanūr (4,000 feet). The westernmost, or Toppūr Pass, leads to the rolling downs of Dharmapuri.

On the north-east of the Bāramahāl the JAVĀDIS hang like a curtain. From the breezy top of Kambugudi (3,840 feet) there is a fine view of the fertile Alangayam valley, of which Munro wrote 'There is nothing to be compared to it in England, nor, what you will think higher praise, in Scotland.' A rifle-shot carries across from the Javādis to the Yelagiri, which is more healthy, and deserves to be more popular, than the other minor hill ranges. An extensive view of the whole Bāramahāl country is obtained from this hill. On the right gleam the white minarets of VĀNIYAMBĀDI, above the dark groves of coco-nut that stretch away on both sides of the PĀLĀR. To the left the great red plain heaves into billows, and its many rocky hills seem to surge against the mountain guard of the Bālāghāt, from which the country rises tier over tier to the Mysore plateau.

The Melagiris, the chief hill range of the Bālāghāt, attain a height of over 4,500 feet at their southern extremity. Sandalwood and valuable timber abound here, as well as in the Denkanikota jungles. The rolling uplands of the Bālāghāt or Hosūr *tāluk* are admirably adapted for pasture; and abundant forage is available at the Cavalry Remount Dépôt at Mattagiri, which, with its paddocks and hedgerows and the

green lanes between, recalls the familiar features of an English landscape.

The river systems of Salem are four in number. The chief stream in the District is the CAUVERY, which flows along its western and southern boundaries, separating it from Coimbatore, and is joined by the Sanatkumāranadī, the Sarabhanganadī, the Tirumanimuttār, the Karuvattār, and the Aiyār rivers. The second system may be called the VELLĀR system; to it belong the Vasishtanadī and the Swetanadī, which drain two parallel valleys running east and west in the Atūr *tāluk*, the former carrying off the drainage of the Kalrāyans and the latter that of the Kollaimalais and PACHAIMALAIS. The third system is that of the PONNAIYĀR, which flows through the Bālāghāt and Bāramahāl to the east coast. The last and smallest system is that of the PĀLĀR, which traverses the northern corner of Tiruppattūr.

Geology.

Geologically, Salem is covered with gneisses and crystalline schists belonging to the older and younger Archaeans of Southern India. The quartz-magnesite schists of the Kanjamalai, Tīrthamalai, Kollaimalais, and the Javādis, beds of great thickness with an average of 40 per cent. richness in iron, are included in the latter class; and the former is represented by the lower platform of mixed gneisses, chiefly micaceous and hornblendic, partially laid bare in the plains round Salem city. The more massive plutonic Archaeans associated with the mixed gneisses comprise the charnockite series of granulites, well developed in the rugged masses of the Shevaroys and elsewhere, on the eastern borders of which occurs a line of exposures of corundum; the biotite gneissose granite of the Bāramahāl, which builds the sharp cones and *drugs* of that country; and the mottled gneiss of Uttangarai. The only rocks of later age than these Archaeans are a scattered set of younger intrusives of considerable interest, including an enormous number of rock types. Among them are the dunites, the magnesite of the CHALK HILLS, and some acid pegmatites containing good mica.

Botany.

Varying so considerably in altitude and in rainfall, the District naturally contains a wide range of flora. On the lowest levels are the usual Coromandel plants, while at YERCAUD on the Shevaroys English fruits, flowers, and vegetables flourish wonderfully, and the wild flora is almost that of zones of heavy rainfall.

Fauna.

The District is not rich in large game. Tigers and bears are met with in the hills adjoining the Cauvery in the Hosūr and Dharmapuri *tāluks*, and an elephant occasionally wanders across

from the Coimbatore side. Bears and leopards have been almost exterminated on the Shevaroys, and deer are now unknown there. The Malaiyālis on all the hill ranges have enormously reduced the quantity of small game; but the jungles in the plains still abound with hares, partridges, quail, and spur-fowl.

Climate and temperature. In Hosūr, which is on the Mysore table-land, the climate is as pleasant as that of Bangalore; while in the lower Tālaghāt section the heat is as oppressive as in the adjoining District of Trichinopoly. The mean temperature of Salem city is 82° F. The Shevaroys from their elevation naturally boast the coolest climate in the District, the thermometer rarely rising above 75° F. in the hottest months. The other hill ranges approach the Shevaroys in this respect, but they are not free from the drawback of malaria.

Rainfall. The rainfall is fairly evenly distributed through the plains, except in the two southernmost *tāluks* of Nāmakkal and Tiruchengodu, which get an average of only 30 inches annually as compared with the District average of 33. The Shevaroys are quite exceptional, receiving nearly double as much as the rest of the District.

Floods on a large scale are unknown. In the autumn of 1874 heavy freshes occurred in the Pālār, washing away the railway line in several places and sweeping away a portion of the town of Vāniyambādi. This disaster was repeated on a larger scale in November, 1903, when, owing to the bursting of tanks in Mysore, the river rose even higher than before and two suburbs of the town were completely ruined.

History and archaeology. The District was never an independent political entity. In early times the north of it was ruled by the Pallavas, while the south was included in the Kongu kingdom. In the ninth century the Chola kings annexed the whole, and subsequently it passed under the Hoysala Ballālas. In the fourteenth century it was conquered by the Hindu kings of Vijayanagar, whose sway was acknowledged till the beginning of the seventeenth century, when the District passed under the Naik rulers of Madura. From 1652, parts of it began to fall under the power of the rising Hindu dynasty of Mysore, till the whole was absorbed by Chikka Deva Rājā, the greatest of them, about 1688–90. In 1761 Haidar Alī usurped the Mysore throne. In 1767 the English reduced portions of the Bāramahāl and carried on, both within and without it, a desultory warfare with Haidar, in which the latter had the advantage. By the treaty which concluded the war with Haidar's son Tipū in 1792 the

whole District, excepting the Hosūr *tāluk*, fell to the Company. After the fall of Seringapatam and the death of Tipū in 1799, Hosūr also passed to the English.

The chief objects of antiquarian interest in the District are the old fortresses at KRISHNAGIRI, NĀMAKKAL, and SANKARIDRUG.

The people.

Except Coimbatore, Salem is more sparsely peopled than any other of the more southern Districts of the Presidency. The numbers at the four enumerations were as follows: 1,966,995 (1871), 1,599,595 (1881), 1,962,591 (1891), and 2,204,974 (1901). The decrease of 19 per cent. in 1881 was due to the severity of the great famine of 1876-8; but the recovery was rapid during the ten years ending 1901, the rate of increase being higher than in any District except Kistna. Salem consists of nine *tāluks*, the head-quarters of which are at the places from which they are named. Statistical particulars of them according to the Census of 1901 are appended:—

Tāluk.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Hosūr	1,217	1	750	184,971	152	+18·7	6,656
Krishnagiri	659	1	507	175,300	266	+15·2	6,198
Dharmapuri	941	1	580	206,030	219	+15·5	6,336
Tiruppattūr	539	2	323	205,986	382	+ 9·1	10,263
Uttangarai	910	..	451	159,419	175	+15·4	4,314
Salem	1,071	2	476	470,181	439	+12·7	21,613
Atūr	841	1	173	199,475	237	+ 8·9	7,159
Nāmakkal	715	2	356	313,895	439	+ 4·6	14,612
Tiruchengodu	637	1	166	289,717	455	+16·5	7,234
District total	7,530	11	3,782	2,204,974	293	+12·4	84,385

The chief of the eleven towns in the District are the three municipalities of Salem, Tiruppattūr, and Vāniyambādi. Of the population in 1901, 2,116,768, or 96 per cent., were Hindus; 68,497 were Musalmāns; and 19,642 Christians. Tamil is the mother tongue of 71 per cent. of the people, and Telugu is spoken by 19 per cent. In Hosūr Kanarese is the vernacular of a considerable proportion.

Their castes and occupations.

As elsewhere, agriculture is the predominant occupation. The largest castes are all agriculturists; the most numerous being the Pallis (516,000), Vellālans (396,000), and Paraiyans (185,000). Brāhmans are unusually few, numbering only 15

in every 1,000 of the population, or less than in any area except the three Agencies in the north of the Presidency and the Nīlgiris. The shepherd Kurumbans (50,000) and the Kuravans, a wandering people who have a bad reputation for crime, are more numerous in Salem than in any other District.

Of the total Christian population in 1901, 18,701 were natives of India. Of the various sects, the Roman Catholics greatly preponderate, numbering 17,624. The foundation of the Christian Church in the District was laid in 1630 by the celebrated Robert de Nobili. He landed in India in 1606, and, after founding the well-known mission at Madura, turned his steps to the north. He passed by Trichinopoly to Sendamangalam, which was then the capital of a ruler called Rāmachandra Naik, tributary to the king of Madura. This chief welcomed the missionary and gave him a site on which to build a church. De Nobili then pushed on to Salem, where after a period of trouble he succeeded in winning over the ruler there, who was also tributary to Madura, in 1630. A church was built in the place about this time. The mission then developed towards the north, and a centre was established at Koilūr in the Dharmapuri *tāluk*. By the middle of the eighteenth century the number of converts had reached a large total, but the suppression of the Jesuits in 1773 checked the advance of Christianity; and when Tipū Sultān ascended the throne of Mysore he ordered the Koilūr church to be destroyed and deported half the Christian population to Mysore, where he sought to convert them forcibly to Muhammadanism. The work, however, went on in spite of these difficulties, and at the present day there are Catholic missionaries in every part of the District. Of the Protestant missions the most important is the London Mission, which began work in Salem as early as 1827. Christian missions.

Agriculturally, the northern and central sections of the District are generally inferior in soil and situation to the southern or Tālaghāt section. The prevailing soil everywhere is red sand, which occupies as much as 82 per cent. of the whole area. This, however, is not the ordinary barren red sand of Trichinopoly and South Arcot, but is of superior quality and as good as red loam. The first three months of the year are usually rainless, and the fall in April is not great. The May rainfall, the early showers which precede the south-west monsoon, is usually copious and marks the commencement of the cultivation season, which goes on through the south-west monsoon, on which the District mainly depends, General agricultural conditions.

and the north-east rains. The months during which the largest sowings are made are July, August, and October; but over the greater part of the western *tāluks* a wide area of crop is put in even before June.

Chief agricultural statistics and principal crops.

A considerable portion of the District is composed of *zamīndāri* and *inām* land, which covers 2,052 square miles out of the total area of 7,530. Returns are not available for the *zamīndāris*, and the area for which statistics are collected is 5,675 square miles. The following table gives details for 1903–4, areas being in square miles:—

Tāluk.	Area shown in accounts.	Forests.	Cultivable waste.	Cultivated.	Irrigated.
Hosūr	873	388	129	228	16
Krishnagiri	377	54	22	226	23
Dharmapuri	738	293	62	289	25
Tiruppattūr	371	159	6	129	17
Uttangarai	764	304	92	280	13
Salem	963	281	28	446	55
Atūr	789	114	122	241	52
Nāmakkal	374	50	72	210	38
Tiruchengodu	426	13	25	326	52
District total	5,675	1,656	558	2,375	291

The characteristic food-grains of the District are *rāgi* (*Eleusine coracana*) and *cambu* (*Pennisetum typhoideum*), the former, generally speaking, being most prominent in the northern and central sections and the latter in the southern portion. The area under them in 1903–4 was 431 and 516 square miles respectively. Rice is grown largely in Nāmakkal and Atūr. The former *tāluk* contains a large area of plantain and sugarcane cultivation, and the latter of areca-nut and coco-nut. Of special crops, the coffee on the Shevaroy Hills is the most important. It covers an area of 9,000 acres, most of it grown under European supervision. In Atūr 3,000 acres are occupied by indigo, and in the Hosūr *tāluk* mulberry is grown to a small extent for rearing silkworms.

Improvements in agricultural practice.

After the great famine of 1876–8 there was a considerable decrease in the area of the holdings in the District, the decline being as much as 20 per cent. Since then, however, the country has rapidly recovered, and the area now occupied is one-fifth more than it was before that famine. No marked improvements can, however, be said to have been made in the local methods of agriculture. Only in the extension of well-

irrigation has a real advance been made. During the sixteen years ending 1904 nearly 2¾ lakhs has been advanced to ryots under the Land Improvement Loans Act, and this has been chiefly laid out in digging or repairing wells.

Owing to the number of hill ranges and the large area of waste land affording pasture, the District is generally rich in live-stock. This is especially the case in the Hosūr *tāluk*, where the climate is favourable to the growth of grass, and almost every ryot keeps attached to his holding a small patch of grass land which is reserved for pasture. The chief breeds of cattle are three: namely, the Mysore, the Alambādi, and the Tiruchengodu. The first is raised in the forests bordering on the Cauvery in the Hosūr *tāluk*, and the second in the forest land of the Pennagaram side of the Dharmapuri *tāluk*. The bullocks of both these breeds are in much demand for draught, and command good prices at the great cattle fairs of the southern Districts. The cows of the Tiruchengodu breed, though small, are good milkers. The sheep are of the two well-known classes called the Kurumba and the Semmeri. The former is woolly and black or brown; the latter, hairy and reddish in colour. Government encourages pony-breeding by maintaining stallions at different stations in the District, and there is a Remount Dépôt at HOSŪR. Cattle, ponies, and sheep.

Of the total cultivated area of the *ryotwāri* and 'minor *inām*' land, 291 square miles, or 14 per cent., were irrigated in 1903–4. Of this, 122 square miles (42 per cent.) were supplied from wells; 111 square miles (38 per cent.) from tanks; and only 44 square miles (15 per cent.) from canals. The Cauvery is of little use for irrigation till it enters the Nāmakkal *tāluk*. Here three channels of a total length of 49 miles take off from it, and convert more than 7,000 acres, which would otherwise be barren, into a fertile area that has with justice been called the garden of the District. Irrigation.

The tributaries of the Cauvery have not the same constant flow as the main stream, and the land watered by them is liable to failure of crops, owing to short supply of water. The Vellār river system in the Atūr *tāluk* possesses a perennial supply and irrigates an area of 9,400 acres. The Ponnaiyār, with its tributaries, waters 26,000 acres, including both direct and indirect irrigation. Of the 1,842 Government tanks in the District the only one large enough to be worth mention is the Barūr tank fed by the Ponnaiyār, which irrigates about 3,000 acres. Of the tanks 79 per cent. are small reservoirs supplying less than 50 acres each, and 32 per cent. of these irrigate less

than 10 acres each. In these small works the supply is very precarious and has to be supplemented by wells to enable a 'wet' crop to be raised. Accordingly, we find that there are 25,152 wells in 'wet' land, a larger number than that in any other District in the Presidency except North and South Arcot. Wells in 'dry' land are also numerous, numbering 53,878, a figure exceeded only by Coimbatore, and North and South Arcot. They are most numerous in the Tālaghāt and least so in the Bālāghāt. The garden land supplied by them is cultivated with great skill, and the crops raised are heavier and more valuable than those irrigated from channels or tanks. In the Rāsipur side of the Salem *tāluk* this garden cultivation is especially excellent.

Forests. The chief forests form a horse-shoe belt across the District from west to east, beginning on the mass of hills bordering the Cauvery and thence extending along the Shevaroys in the centre of the District to the Chitteri and Kalrāyan Hills. The Pachaimalais and Kollaimalais form a separate block in the south-eastern corner of the District. The area of 'reserved' forests is 1,560 square miles and that of 'reserved' lands 96 square miles. Sandal-wood flourishes on almost every hill range, but is most abundant on the Javādis and the Chitteris at an altitude of 2,000 to 3,000 feet. Teak, blackwood (*Dalbergia latifolia*), *acha* (*Hardwickia binata*), *vengai* (*Pterocarpus Marsupium*), *Terminalia tomentosa*, satin-wood (*Chloroxylon Swietenia*), *Anogeissus latifolia*, and other timber trees grow to a moderate size in all the forests, while along the streams in the hills some large specimens of *Terminalia Arjuna* are found. At the foot, and on the lower slopes, of all the hill ranges on the eastern side of the District are numbers of tamarind trees growing to a remarkable height and size. The forests within 15 miles of the Madras Railway were until recently worked principally for the supply of fuel for the line. The work in the Forest department has now become so heavy that an additional Forest officer has been posted to the District.

Minerals. Salem is rich in minerals. Gold, iron, saltpetre, mica, corundum, rubies, magnesite, and crystalline limestone have all been found. Dr. Heyne, an Indian medical officer who toured throughout the country in the early part of last century, refers to some gold-mines at Siddharkovil, a place conjectured to be near Rāyakottai. Gold used to be found also at the foot of the Kanjamalai hills, people washing for it in the streams after the rains. No gold in workable quantities is found now. Licences have been taken out for prospecting in the village of

Kanavāypudūr in the Salem *tāluk* and in the Kurumbapatti 'reserved' forests of the Shevaroy Hills, but the search has been without result.

Magnetic iron ore of an excellent quality is found in practically inexhaustible abundance in the District, but the scarcity of cheap fuel prevents its utilization. The iron beds occur chiefly in five groups: the Kanjamalai group at the hill of the same name, the Godumalai group in the Salem-Atūr valley, the Singipatti group, 4 miles south of the Godumalai, the Kollaimalai-Talamalai group in the eastern part of the Nāmakkal *tāluk*, and the Tīrthamalai group in the Uttangarai *tāluk*. In the villages in the vicinity of these beds the ore is smelted in the primitive Indian fashion, but not to the same extent as formerly when there was no competition from English wrought iron. Salem iron was famous in the early years of the last century, and a company known as the Porto Novo Iron Company worked the ores on the Kanjamalai hills at foundries established at PORTO NOVO in South Arcot and at Pulampatti, on the Cauvery in the Tiruchengodu *tāluk*. As the jungles diminished, charcoal for smelting had to be brought from longer distances, and the working expenses became too heavy to allow of any profit. The company finally ceased to exist about 1867. At present two firms hold prospecting licences for the Kanjamalai iron, but nothing has yet been done to develop it.

Saltpetre gives work to three refineries at Mohanūr in the Nāmakkal *tāluk*. Mica-mining operations were conducted for a short time in the villages of Chinnamanali and Cholasiramani, but have ceased. Corundum is extracted under a mining lease at Komārapālaiyam in the Nāmakkal *tāluk*. In a number of other villages also corundum is found, and the right to quarry for it is annually leased out by auction. Along with the corundum, rubies are sometimes discovered. Magnesite is being extracted under a mining lease in five Government villages and one *jāgīr* village in the Salem *tāluk*. The area leased is 1,131 acres, and in 1904 the out-turn was 174 tons in Government land and 1,141 tons in *jāgīr* land.

Arts and manufactures.

The chief industry in Salem is weaving, which is carried on in every town or village of any importance. Pure silk cloths and good white cloths with silk borders are woven, especially in Salem city, and exported to other Districts; but the industry is now on the decline, owing to the competition of English machine-made goods. Kurumbans or shepherds weave coarse blankets from sheep's wool all over the District, and a superior variety of these articles is made at Lattivadi in the

Nāmakkal *tāluk*. Indigo is manufactured in fifty-five factories in Atūr and two in Tiruppattūr. Several tanneries for the curing of hides exist at Tiruppattūr, Vāniyambādi, and elsewhere. The latter town is a centre of the Labbais, a mixed race of Musalmāns who do most of the skin trade in the Presidency. Potstone utensils are made at Omalūr in the Salem *tāluk*.

Commerce.

Rice, wheat, castor-oil seed, castor-oil, *ghī*, cloth, betel leaves, plantains, areca-nut, indigo, tamarind, mangoes, coffee, and cattle are among the chief exports of the District. Salt, pepper, tobacco, yarn, and ground-nuts are some of the principal articles imported. Cattle are driven from Hosūr and Dharmapuri to the great cattle-markets in South Arcot, Trichinopoly, Madura, and Tinnevelly. The mangoes go to Madras and Bombay (where they are sold as Bombay mangoes), and betel leaves and plantains are sent to the same places. The internal trade of the country is carried on at weekly markets, which are held at most of the large villages and form quite a feature of social life in this District. They are usually managed by the local boards, which in 1903-4 collected Rs. 15,800 in market-fees.

Railways and roads.

The south-west line of the Madras Railway enters the District near Vāniyambādi and runs through to the Cauvery, which it crosses by a fine bridge near Erode. A narrow-gauge ($2\frac{1}{2}$ feet) railway between Morappūr and Dharmapuri is under construction, and a similar line between Tiruppattūr and Krishnagiri has recently been opened. The District has the largest mileage of roads (2,020 miles) in the Presidency except Coimbatore, but only 582 miles are metalled. There are avenues of trees along 1,311 miles of road, which are managed by the local boards.

Famine.

During the last century the District experienced two famines, in 1833 and 1876-8, and serious scarcity in 1866 and 1891-2. The most terrible calamity was the famine of 1876-8, and during its height as many as 369,137 of the population were being gratuitously fed. The expenditure on relief works was 28 lakhs, on gratuitous relief 32 lakhs, and the indirect expenditure and loss of revenue amounted to a further sum of $8\frac{1}{4}$ lakhs.

District subdivisions and staff.

The District is arranged into four administrative subdivisions, two of which are usually in charge of members of the Indian Civil Service, and the other two of Deputy-Collectors recruited in India. These are Hosūr, comprising the Hosūr, Krishnagiri, and Dharmapuri *tāluks*; Tiruppattūr, comprising Tiruppattūr and Uttangarai; Nāmakkal, comprising Nāmakkal and Tiruchengodu; and Salem, comprising Salem and Atūr.

A *tahsīldār* is in charge of each *tāluk*, but in only four *tāluks* is there a stationary sub-magistrate for magisterial work, which in the other five is entrusted to a *sheristadār* magistrate. Ten deputy-*tahsīldārs* are subordinate to the *tahsīldārs*. There is the usual staff of superior officers, with the addition of the second District Forest officer already mentioned.

Civil justice and crime.

Civil justice is administered by the District Judge, aided by a Sub-Judge who sits for part of the year at Salem, and by five District Munsifs. Criminal justice is dispensed by the Sessions Court, the divisional magistrates (who have the usual first-class powers), and the subordinate second-class magistrates. Much of the crime is committed by the Pallis and the Kuravans already referred to. Dacoity has been more than usually prevalent of late.

Land revenue administration.

The land revenue history of Salem District is of considerable interest, as the beginnings of the *ryotwāri* system were evolved here. The old native method was to rent out the country by villages or other small areas to the village headmen or other lessees. Captain Read, the first Collector of the District, took charge in 1792. Government instructed him to effect a settlement for a term of five years with the cultivators themselves. To do this, Read, with the co-operation of his Assistants, Graham and Munro, surveyed all the land in the District and fixed a money assessment on the fields, the operations being completed in five years (1793–7). During the time the survey was in progress a change had come over Read's opinions; and, on December 10, 1796, he issued his famous order which gave ryots the option of holding their land either under the old lease system or under annual settlements, the latter mode allowing them to give up early in each year whatever land they might not care to cultivate that year, and to retain for any length of time such land as they wished, subject to the payment of assessment for it. This was the germ of the *ryotwāri* system; but the revenue system of Bengal, where Lord Cornwallis had introduced permanent settlement, was extended to Madras by the Government of India. In 1802 Read's *ryotwāri* settlement was cancelled by the appointment of a special commissioner, who, in the next three years, parcelled out the District into 205 *mittahs* (estates), which were sold at auction to the highest bidders and held on fixed rents. This *zamīndāri* system was a failure. Owing to the high rates at which the rents were fixed and the low margin of profit remaining to the *mittahdārs*, the sums payable by them fell into arrear, their *mittahs* were in consequence

attached and sold, and for want of other bidders Government had to buy them in. The estates thus broken up were then administered under the *ryotwāri* system. The evil of excessive assessments was partially reduced by orders issued in 1816 and 1818; but systematic reduction was not effected before 1859, when the Government sanctioned proposals of the Collector for a percentage abatement in the old rates. The reduction gave a wonderful impetus to cultivation, and the land revenue rose with a bound. In 1860 a scientific survey of the District was begun, and in 1871 a new revenue settlement was inaugurated. The survey showed that the extent of holdings in the old accounts had been understated by 15 per cent., and the settlement resulted in an increase of revenue amounting to 4 per cent. The average assessment per acre on 'wet' land was Rs. 3-15-1 on the north of the District and Rs. 5-1-9 in the south, the maximum being Rs. 10-8-0 and the minimum Rs. 1-4-0. On 'dry' land the average assessment was R. 0-14-5 in the north and Rs. 1-5-6 in the south, the maximum being Rs. 5 and the minimum 4 annas per acre. This settlement is now being revised in five *tāluks* by a re-survey and a resettlement. The revenue from land and the total revenue in recent years are given below, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	25,40	26,70	27,84	29,01
Total revenue . .	31,50	39,09	45,67	49,39

Local boards.

Local affairs are managed by a District board and four *tāluk* boards, the jurisdictions of the latter corresponding to the four subdivisions above mentioned. The total expenditure of these bodies in 1903-4 was 4·27 lakhs, the chief items being roads and buildings (1·85 lakhs), education (Rs. 71,000), and medical services (1·30 lakhs). The chief source of income is, as usual, the land cess. The towns of Salem, Tiruppattūr, and Vāniyambādi are municipalities and are excluded from the control of the boards. The number of Unions is thirty-four.

Police and jails.

The police force is managed by a District Superintendent aided by an Assistant. There are 102 police stations; and the force in 1904 numbered 1,285 constables and head-constables, working under 21 inspectors, and 2,475 rural police. Besides the Salem jail, which is one of the seven Central prisons of the Province and can hold 548 convicts,

there are 18 subsidiary jails, which can collectively accommodate 201 male and 118 female prisoners.

Education. In education Salem is very backward. The proportion of the population who can read and write is scarcely more than half the average for the southern Districts as a whole, and the only areas in the Madras Presidency which at the Census of 1901 contained a smaller percentage of literate persons were Vizagapatam and the three Agency Tracts. Of every 1,000 persons in the District, only 38 were classed as literate. The number of literate persons among the males and females of the District amounted to 74 and 4 per thousand respectively. Only 5 per cent. of the males had received any education in English, and the number of girls (including all the Europeans and Eurasians) who could read and write that language was only 500. Education was most advanced in Tiruppattūr, Salem, and Nāmakkal *tāluks*, and least so in Uttangarai and Tiruchengodu. The total number of pupils under instruction in 1880–1 was 9,316; in 1890–1, 23,171; in 1900–1, 31,976; and in 1903–4, 31,231. The number of educational institutions of all kinds in the District in 1904 was 972, of which 847 were classed as public and the remainder as private. Of the former 11 were managed by the Educational department, 197 by the local boards, and 26 by the municipalities, while 288 were aided from Local funds and 325 were unaided. These institutions included the municipal college at Salem, 25 secondary, 818 primary, and 3 training and other special schools. The number of girls in these was 4,023. As usual, the majority of the pupils were only in primary classes. Of the male population of school-going age 15 per cent. were in the primary stage of instruction, and of the female population of the same age 2 per cent. The corresponding percentages for Musalmāns were 72 and 12. Panchama pupils numbering 1,344 were being educated in 51 schools maintained specially for them. The total expenditure on education in 1903–4 was Rs. 1,73,000, of which Rs. 69,000 was derived from fees. Of the total 71 per cent. was devoted to primary education.

Hospitals and dispensaries. The District possesses 11 hospitals and 15 dispensaries, with accommodation for 114 in-patients. In 1903 the number of cases treated was 203,000, of whom 1,400 were in-patients, and 7,100 operations were performed. The expenditure was Rs. 56,000, met chiefly from Local and municipal funds.

Vaccination. In 1903–4 the number of persons successfully vaccinated was 27 per thousand of the population, the mean for the

Presidency being 30. Vaccination is compulsory in all the municipalities and Unions, and in the village of Komārapālaiyam in the Tiruchengodu *tāluk*.

[H. Le Fanu, *District Manual*, 1883.]

Hosūr Subdivision. — Subdivision of Salem District, Madras, consisting of the HOSŪR, KRISHNAGIRI, and DHARMAPURI *tāluks*.

Hosūr Tāluk.—Northern *tāluk* of Salem District, Madras, lying between 12° 9′ and 12° 54′ N. and 77° 29′ and 78° 16′ E., with an area of 1,217 square miles. The northern and western portions are on the high level of the Mysore plateau, and form a bare and uninteresting tract. In the south and east the country is full of beauty, being a series of plateaux sustained by lines of forest-clad hills and sinking by rapid descents down to the valley of the CAUVERY. The *tāluk* is the most thinly peopled portion of the District; but at the Census of 1901 it contained a population of 184,971, compared with 155,768 in 1891, the increase, at the rate of nearly 19 per cent., being the most rapid in the District. Much of the country is covered with jungle, and is the rearing-ground of the so-called Mysore breed of cattle. The climate on the table-land is cool and pleasant, resembling that of Bangalore. The *tāluk* contains one town, HOSŪR (population, 6,695), the head-quarters and chief town of the subdivision. The number of villages is 750. The demand for land revenue and cesses in 1903–4 was Rs. 2,49,000.

Krishnagiri Tāluk.—*Tāluk* of Salem District, Madras, lying between 12° 14′ and 12° 43′ N. and 77° 58′ and 78° 30′ E., with an area of 659 square miles. It is situated in the borderland between the Mysore plateau and the great plains of the Carnatic, and is encircled by hills the summits of which are often crowned with ancient fortresses. The *tāluk* is traversed by numerous streams which take their rise in the surrounding hills and flow into the PONNAIYĀR river. In 1901 the population was 175,300, compared with 152,128 in 1891. There are 507 villages, and only one town, KRISHNAGIRI (population, 10,446), the head-quarters. The demand for land revenue and cesses in 1903–4 was Rs. 2,25,000.

Dharmapuri Tāluk.—*Tāluk* of Salem District, Madras, lying between 11° 54′ and 12° 27′ N. and 77° 41′ and 78° 18′ E., with an area of 941 square miles. The CAUVERY river bounds it on the west and is joined by the Sanatkumāranadī, which flows through the north-western portion of the *tāluk*. Near the junction of these rivers are the falls of Hogenakal or the

'smoking rock.' The population in 1901 was 206,030, compared with 178,442 in 1891. There are 580 villages, and only one town, DHARMAPURI (population, 8,102), the head-quarters. The demand for land revenue and cesses in 1903-4 was Rs. 2,54,000.

Tiruppattūr Subdivision.—Subdivision of Salem District, Madras, consisting of the TIRUPPATTŪR and UTTANGARAI *tāluks*.

Tiruppattūr Tāluk.—*Tāluk* of Salem District, Madras, lying between 12° 17′ and 12° 47′ N. and 78° 24′ and 79° 2′ E., with an area of 539 square miles. The lower portion is composed of four valleys of varying size. The largest of the four is the bare southern stretch of country through which the Pāmbār glides. This is in striking contrast to the second, the rich valley of the PĀLĀR, thickly wooded with coco-nut groves with here and there a patch of corn-fields. Quite different features are presented by the other two valleys: the rugged Vellakuttai hollow, lying between the triangular-shaped Yelagiri and the hog-backed Nekkananamalai; and the fertile Alangayam basin, bounded on the west by the Yelagiri and on the east by the picturesque JAVĀDIS. This last is the fairest of all the valleys in the District, and its beauty and luxuriance won the special affection of Munro when he served in Salem. The population in 1901 was 205,986, compared with 188,825 in 1891. There are 323 villages, and two towns of commercial importance: namely, TIRUPPATTŪR (population, 18,689), the head-quarters of the *tāluk* and subdivision, and VĀNIYAMBĀDI (12,005), the station of a deputy-*tahsīldār*. These two towns include a large Muhammadan community, and the *tāluk* contains the largest number of the followers of that faith in the District. The demand for land revenue and cesses in 1903-4 was Rs. 2,00,000.

Uttangarai.—Central *tāluk* of Salem District, Madras, lying between 11° 47′ and 12° 25′ N. and 78° 13′ and 78° 44′ E., with an area of 910 square miles. Next to Hosūr it is the most thinly peopled tract in the District, the population in 1901 being 159,419, compared with 138,113 in 1891. The *tāluk* generally has a bad name for malaria. There are 451 villages, including Uttangarai (population, 1,073), the head-quarters. The demand for land revenue and cesses in 1903-4 amounted to Rs. 2,07,000.

Salem Subdivision.—Subdivision of Salem District, Madras, consisting of the SALEM and ATŪR *tāluks*.

Salem Tāluk.—Central *tāluk* of Salem District, Madras,

lying between 11° 23′ and 11° 59′ N. and 77° 46′ and 78° 29′ E., with an area of 1,071 square miles. The greater part is composed of a series of valleys from 5 to 12 miles wide shut in by lofty ranges of hills, the chief being the SHEVAROYS, on which stands the sanitarium of YERCAUD, the Toppūr hills, and the Tenandamalai on the north, which separate the *tāluk* from the BARAMAHĀL. The chief river is the Tirumanimuttār, which rises in the Shevaroys and flows through the town of Salem to Tiruchengodu and on to Nāmakkal, where it enters the CAUVERY. But the mainstay of irrigation is the wells sunk by the ryots themselves, which are more numerous here than in any other portion of the District. The *tāluk* had a population of 470,181 in 1901, as compared with 417,379 in 1891. It contains 476 villages and two towns: SALEM CITY (population, 70,621), the head-quarters of the *tāluk* and District, and RĀSIPUR (11,512), the head-quarters of a deputy-*tahsīldār*. The *tāluk* is rich in minerals, containing the famous iron deposits of Kanjamalai and the magnesite of the Chalk Hills. The demand for land revenue and cesses in 1903–4 amounted to Rs. 6,41,000.

Atūr Tāluk.—*Tāluk* of Salem District, Madras, lying between 11° 19′ and 11° 53′ N. and 78° 16′ and 78° 51′ E., with an area of 841 square miles. The western part is broken by numerous rocks and hills; but the east forms a wide undulating plain, separated by the valleys of the Vasishtanadī and Swetanadī rivers from the mountain ranges of the Tenandamalai and KALRĀYANS on the north and the KOLLAIMALAIS and PACHAIMALAIS on the south. The valley irrigated by these rivers is a rich tract of country, and the luxuriant groves of areca palms are a striking feature of the river banks. The population in 1901 was 199,475, compared with 183,209 in 1891. There are 173 villages, and only one town, ATŪR (population, 9,673), the head-quarters. The demand for land revenue and cesses in 1903–4 amounted to Rs. 3,17,000.

Nāmakkal Subdivision.—Subdivision of Salem District, Madras, consisting of the NĀMAKKAL and TIRUCHENGODU *tāluks*.

Nāmakkal Tāluk.—*Tāluk* in Salem District, Madras, lying between 11° 1′ and 11° 25′ N. and 77° 51′ and 78° 30′ E., with an area of 715 square miles. It is the most southerly *tāluk* of the District and lies lower than the others, forming a wide plain broken on the north and east by the great range of the KOLLAIMALAIS. The CAUVERY skirts it

and encircles a small tract of country, which, with its flourishing groves of plantains, betel-vines, and coco-nut palms, its sugar-cane and green expanses of rice, rivals in richness the delta of Tanjore. The population in 1901 was 313,895, compared with 300,047 in 1891. There are 356 villages and two towns, NĀMAKKAL (population 6,843) and SENDAMANGALAM (13,584). The demand for land revenue and cesses in 1903-4 was Rs. 4,47,000.

Tiruchengodu Tāluk.—*Tāluk* in the south-west corner of Salem District, Madras, lying between 11° 15′ and 11° 45′ N. and 77° 45′ and 78° 12′ E., with an area of 637 square miles. As compared with the rest of the District it is exceptional in its configuration, being a hot glaring plain, the monotonous aspect of which is relieved only by the hill-fortresses of TIRUCHENGODU and SANKARIDRUG, and the silver thread of the CAUVERY which winds to the west and south. The Tirumanimuttār and Sarabhanganadī are the chief rivers, but the cultivation is mostly unirrigated and the *tāluk* is liable to attacks of scarcity. The population increased from 248,679 in 1891 to 289,717 in 1901, and the density is the highest in the District, being 455 persons per square mile. There are 166 villages, and only 1 town, Tiruchengodu (population, 8,196), the head-quarters. The demand for land revenue and cesses in 1903-4 amounted to Rs. 4,88,000.

Atūr Town.—Head-quarters of the *tāluk* of the same name in Salem District, Madras, situated in 11° 35′ N. and 78° 37′ E., on the river Vasishtanadī about 3 miles from the foot of the KALRĀYAN HILLS. Population (1901), 9,673. North of the town stands the old fort where the famous eighteenth-century chieftain Ghetti Mudaliyār is said to have lived in royal state, and where subsequently British troops were in garrison. As commanding the pass from Salem to Tyāga Drug, this post was of importance in the wars with Haidar Alī. It was captured by the British in 1768, after the surrender of Salem; and during the war with Tipū was again occupied by British troops. Indigo is manufactured in the place, which is also known for the carts made there.

Chalk Hills.—The name given to a barren tract of hilly ground in the Salem *tāluk* of Salem District, Madras, lying between 11° 42′ and 11° 47′ N. and 78° 7′ and 78° 12′ E., north and north-west of Salem city. Over the greater part of this area the surface is whitened by numerous veins of magnesite, the white colour of which has given the locality its name. The magnesite deposits cover about 12 square miles, stretching

from a little west of the railway north-eastward to the foot of the SHEVAROYS. They are said to be the largest of the small number of such deposits which are known, and are now being worked.

Dharmapuri Town.—Head-quarters of the *tāluk* of the same name in Salem District, Madras, situated in 12° 8′ N. and 78° 10′ E. It is connected by a road 18 miles long with the Morappūr station on the Madras Railway, and will shortly be linked to it by a narrow-gauge (2 feet 6 inches) railway. Population (1901), 8,102. The town was for some years the residence of Major (afterwards Sir Thomas) Munro. He planted a fruit garden here and constructed a square stone tank, and speaks affectionately of the place in his letters. The only trade of Dharmapuri is in skins. An old fort in the town played some part in the wars of this part of the country, but is now overgrown with prickly pear.

Hosūr Town.—Head-quarters of the *tāluk* and subdivision of the same name in Salem District, Madras, situated in 12° 44′ N. and 77° 50′ E. The nearest railway station is Malūr on the Bangalore branch of the Madras Railway, 20½ miles by a good road. It is also easily accessible from Bangalore, 24 miles distant. Population (1901), 6,695. To the west of the town stands an old fort, mentioned frequently in the history of the wars with Tipū Sultān, and supposed to have been built for Tipū by an English engineer named Hamilton. He and two other prisoners were barbarously beheaded on the approach of Lord Cornwallis's army in 1791. The divisional officer's bungalow, locally called the Castle, was built at great cost by a former Collector, Mr. Brett (1859–62), when Hosūr was the head-quarters of the District. It is in the style of an English mediaeval castle, with turrets, battlements, a moat, &c. It was purchased by Government in 1875 for Rs. 10,000.

Four miles south of the town, at Mattagiri, is the Hosūr Remount Dépôt, from which the Ninth Division of the Army in India is supplied with cavalry and artillery horses. This dates from 1828, and is in charge of a British officer assisted by a subaltern of the Army Veterinary department. The greater number of the horses are Australians bought from the importers at Madras. They are acclimatized and broken to their work at the dépôt. The place has a wonderfully English appearance, the grassy paddocks being surrounded with post-and-rail fences and entered by gates of familiar pattern, and much of the work on the farm is done by horses instead of bullocks.

Jalārpet.—Village in the Tiruppattūr *tāluk* of Salem District, Madras, situated in 12° 35′ N. and 78° 34′ E. Population (1901), 2,051. It is of importance owing to its railway station, which is the junction of the south-west line of the Madras Railway with the Bangalore branch. Of late years it has also been the station at which passengers proceeding towards Madras have been examined to make sure that they are free from plague. Distance from Madras 132 miles, from Bangalore 87 miles.

Kalrāyan Hills.—These hills are situated partly in the Atūr and Uttangari *tāluks* of Salem District and partly in South Arcot District, Madras, lying between 11° 38′ and 12° 4′ N. and 78° 28′ and 78° 49′ E. They stand east of the Tenandamalai, being separated from it by the Kottapatti valley, and are perhaps the largest in superficial extent of the hill ranges in Salem District. Different portions of the range have local names, but the principal divisions are the Periya ('big') Kalrāyans, which attain an elevation of 4,300 feet, and the Chinna ('little') Kalrāyans, reaching to little beyond 3,000 feet. The temple of Kari Rāman in the Periya Kalrāyans is held in great reverence by the Malaiyālis who inhabit these hills. The range is parcelled out into five *jāgīrs* or estates, the owners of which govern their tenants in a primitive and patriarchal fashion. The fever on the range is so dreaded that few dwellers on the plains ever go up it, and consequently the people have retained many curious customs which differ from those of the low country. They are exclusively of the caste known as Malaiyālis; but there is no doubt that they are not a distinct race, but merely Tamils who at some remote period took refuge in these hills from the troublous times through which the plains were passing.

Kanjamalai.—Hill in the *tāluk* and District of Salem, Madras, situated in 11° 37′ N. and 78° 4′ E., and 3,238 feet in height. It is a conspicuous object in the Salem landscape, with its hog-backed shape and its serrated ridges, and is widely known for its rich stores of magnetic iron ore. There are five separate beds of this, and the supply is almost inexhaustible. It often contains as much as 40 per cent. of iron. Vast quantities of the ore of these beds have rolled down the sides of the hill, especially to the south, where not only does the extensive talus consist mainly of it, but the fields for one or two miles from the hill are thickly strewn with rolled fragments of all sizes. The Kanjamalai iron was the source of supply of the ill-fated Porto Novo Iron Company, which erected blast

furnaces at Porto Novo in the early years of the last century, but eventually collapsed. Since then no mining has been done here. Two firms hold licences to prospect in the hill, but no definite steps have yet been taken to extract any ore. At the foot of the hill is the famous temple of Siddharkovil.

Kāveripatnam.—Village in the Krishnagiri *tāluk* of Salem District, Madras, situated in 12° 26′ N. and 78° 13′ E., on the right bank of the Ponnaiyār, 7 miles from Krishnagiri. Population (1901), 4,954. The place was regarded as of some strategical importance in the Mysore Wars, as it commanded the entrance to Dharmapuri *tāluk* and the Carnatic, and was strongly fortified. In 1767 the English took it from Haidar Alī, but the latter almost immediately recaptured it and used it as a support in the next campaign until his withdrawal above the Ghāts. Colonel Wood then took the place, and in 1790 Colonel Maxwell made it his head-quarters before advancing against Tipū.

Kollaimalais.—Hill range in the Nāmakkal and Atūr *tāluks* of Salem District, Madras, lying between 11° 10′ and 11° 27′ N. and 78° 18′ and 78° 30′ E. Unlike the Shevaroys, the Kollaimalais rise abruptly from the plains, and present the appearance of a flat-topped mass of mountain. But far from being a level plateau, the upper surface is cut up by numerous deep and narrow valleys, which render the scenery all along the 17 miles of its length variegated and picturesque. From the bold crag which rises on the north to a height of over 4,000 feet and overlooks the fertile plains of Atūr, the eye travels over long, gently-sloping, sheltered glades down its north-east flank and rests on the concentric terraces of vivid green in the basin below. Farther south, across ridges whose sides are furrowed by deep ravines, by grassy meadows dotted with the glossy jack and the tall sago, along rocky passes and narrow defiles and wooded glens, is seen the great gorge which opens from the central basin towards the Turaiyūr valley, and at its head the shrine in Valapurnād where Arapileswaran presides over the clear waters of the Aiyār before they descend precipitously into the low country at Puliyanjolai. Near the high ridge at the southern extremity, commanding a vast view of the Cauvery in the foreground, and of the distant Anaimalais and the Palnis beyond, are the ruins of an old bungalow testifying to the evil reputation for malaria which the Kollaimalais have long (perhaps not altogether deservedly) enjoyed among European settlers. The population of the hills consists chiefly of the same Malaiyālis who are found

on the Shevaroys, the Pachaimalais, and the Kalrāyans. They cultivate considerable areas, but have ruined the forests, which were formerly of value, by promiscuous felling.

Krishnagiri Town.—Head-quarters of the *tāluk* of the same name in Salem District, Madras, situated in 12° 31′ N. and 78° 13′ E. Population (1901), 10,446. It is connected with Tiruppattūr on the Madras Railway by a road 24 miles long, and by a narrow-gauge (2 feet 6 inches) railway. The town consists of Krishnagiri proper, the old town, and a new suburb called Daulatābād, where the Government offices are situated. This last was built under the auspices of Munro and Graham, the first Assistant Collectors of the District; the present public bungalow was their residence. The town is commanded by a precipitous hill fort rising 800 feet above it. Such were its capabilities for defence that it was never carried by assault. In 1767, and again in 1791, British troops attempted it unsuccessfully, and on several occasions during the operations against Mysore it was necessary to blockade or mask it. In 1768 it surrendered to a blockading force, and was held by a British garrison for some years until restored by treaty. Grapes of an excellent quality are produced in the neighbourhood.

Nāmakkal Town.—Head-quarters of the *tāluk* and subdivision of the same name in Salem District, Madras, situated in 11° 14′ N. and 78° 10′ E., on the Salem-Trichinopoly road, 31 miles from Salem city, and 20 miles from the nearest railway station, Karūr on the South Indian Railway. Population (1901), 6,843. The town is famous for its temple of Nāmagiri Amman built at the base of the Nāmakkal rock, a great rounded mass of gneiss about 200 feet high, crowned by a hill fort visible for miles round, and easily distinguished from the surrounding hills by its white colour. The battlements are still in perfect preservation, being made of well-cut blocks of the same stone as the hill itself, and secured to the rock by mortar. No mortar has been used in the higher courses, which hold together solely by their own weight and accurate fitting. Besides the fort, a Hindu temple and a Muhammadan flagstaff stand on the top of the rock. The building of the fortress is ascribed by some to Rāmachandra Naik, *poligār* of Sendamangalam, and by others to Lakshminarasayya, an officer under the Mysore Rājā. It is perhaps less than 200 years old, and was captured by the English in 1768, only to be lost again to Haidar Alī a few months later. At the foot of the rock on the other side lie the drinking-water

tank called the Kamalālayam, and a public garden. The town possesses a high school, the only Local fund institution of that class in the District. *Ghī* of an excellent quality is brought to the Nāmakkal market and exported to distant places.

Rāsipur.—Town in the *tāluk* and District of Salem, Madras, situated in 11° 28′ N. and 78° 11′ E., in the fertile valley between the Bodamalais and the KOLLAIMALAIS. Population (1901), 11,512. Silk and cotton cloths are extensively woven here, and large iron boilers for the manufacture of jaggery (coarse sugar) and brass and bell-metal vessels of all kinds are made.

Rāyakottai ('king's fort').—Village in the Krishnagiri *tāluk* of Salem District, Madras, situated in 12° 31′ N. and 78° 2′ E. Population (1901), 1,497. To the north stands the hill with its ruined fort which gives the place its name. This commands one of the most important passes between the Mysore table-land and the Bāramahāl, and was of great strategical importance in the Mysore Wars of the eighteenth century. Its capture by Major Gowdie was the first exploit in Lord Cornwallis's march. It was ceded to the British by the treaty of 1792, and under its walls the army of General Harris encamped in 1799 before entering Mysore territory on its way to Seringapatam. The place was at one time a favourite residence of military pensioners.

Salem City.—Head-quarters of the *tāluk* and District of the same name in Madras, situated in 11° 39′ N. and 78° 10′ E., 206 miles by rail from Madras city. It lies in a picturesque valley, bounded on the north by the SHEVAROYS and on the south by the Jarugumalais. The Tirumanimuttār river, flowing through this valley, contributes to the wealth of greenness which is the great charm of the landscape. Salem contains the usual offices, a small college, and one of the seven Central jails of the Presidency. The residences of the officials, except of the Collector, whose house is in the native quarter, are pleasantly situated on high ground along the road to Yercaud, which is only 14 miles distant by the old bridle-path. The city is straggling and extensive, being about 4 miles long and 3 broad. Its population in 1901 was 70,621, and it ranks as the fifth largest place in the Presidency. Of the total, Hindus numbered 63,444, Musalmāns 5,811, and Christians 1,365. In 1871 the population was 50,012; in 1881, 50,667; and in 1891, 67,710. A serious riot took place here in 1882 between the Muhammadans and the Hindus, the question involved being the old one of the right of a Hindu procession to pass a Musalmān mosque. Salem was made a municipality in 1866. The

receipts and expenditure during the ten years ending 1902–3 averaged about Rs. 77,000 and Rs. 70,000 respectively. In 1903–4 the income was Rs. 90,000, the chief items being house and land taxes; and the expenditure was Rs. 1,00,000, including medical services and sanitation (Rs. 39,000), education (Rs. 23,000), and public works (Rs. 20,000). The great want of the city is a proper water-supply. Several schemes have been investigated, but only recently has a promising one been discovered. Salem formerly had an evil reputation as a hotbed of cholera, and in the autumn of 1875 there were 2,039 attacks and 840 deaths in the short space of six weeks. Weaving in silk and cotton is the chief local industry, but is on the decline. In the distress of 1891–2 the weavers suffered greatly and migrated in large numbers, the demand for their productions having fallen off owing to the scarcity of money among their usual clients. Government started a special scheme for their relief, by undertaking to purchase cloths from them on a system which left them a margin for subsistence.

Sankaridrug.—Village in the Tiruchengodu *tāluk* of Salem District, Madras, situated in 11° 29′ N. and 77° 52′ E., 2 miles from the station of the same name on the Madras Railway. Population (1901), 2,046. The place is built just under the Sankaridrug hill, which rises to a height of 2,343 feet, and is completely terraced with fortifications. These point to the vicissitudes of South Indian history, some of them dating from the time of the Hindu chieftains, others from Tipū Sultān's days, and yet others being of English origin. The hill is well worth climbing. Past a Hindu temple, the door of which is riddled with bullets, the traveller toils up a flight of steep steps, and half-way along the ascent reaches a snowy mosque erected in honour of a Moslem saint, which nestles among the green foliage that clothes the hill like a pearl set among emeralds. Leaving this, the path winds among remains of modern fortifications and the houses of the garrison, now overgrown with shrubs and prickly pear, and at length reaches a plateau at the top of the hill. Here is a fount of pure and cold water, supposed to be possessed of medicinal virtues; and the remains of the old Hindu fort, its granary and the subterranean cell into which condemned prisoners were thrown, come into view. Crowning all are the temples of Vishnu, the lights of which twinkle in the evenings in the surrounding darkness. The village is very healthy, and was a favourite camping-place for the District officers till Yercaud rose into prominence. The

public bungalow, one of the finest in the District, is picturesquely situated on a rock just under the hill.

Sendamangalam.—Town in the Nāmakkal *tāluk* of Salem District, Madras, situated in 11° 17′ N. and 78° 15′ E. Population (1901), 13,584. It is the third largest town in the District, but the occupations of the people are purely agricultural, and it is of little other interest.

Tiruchengodu Town.—Head-quarters of the *tāluk* of the same name in Salem District, Madras, situated in 11° 22′ N. and 77° 53′ E., 5 miles from the Sankaridrug station on the Madras Railway. Population (1901), 8,196. The town is celebrated for the shrine on its hill, which is one of the great temples of the Konga Vellālas and attracts thousands of pilgrims.

Tiruppattūr Town.—Head-quarters of the *tāluk* and subdivision of the same name in Salem District, Madras, situated in 12° 29′ N. and 78° 34′ E., 137 miles from Madras by the south-west line of the Madras Railway. Population (1901), 18,689, of whom more than a third are Muhammadans. The town has always been a favourite station, and was the original British capital of the District, Colonel Read, the first Collector, having made it his head-quarters in 1792. It was constituted a municipality in 1886. The municipal receipts and expenditure during the ten years ending 1902–3 averaged Rs. 25,000 and Rs. 24,700 respectively. The income in 1903–4 was Rs. 56,000, and the expenditure Rs. 44,000; of the former Rs. 31,000 was contributed by Government, and the rest was principally derived from the house and land taxes and from tolls.

Vāniyambādi.—Town in the Tiruppattūr *tāluk* of Salem District, Madras, situated in 12° 41′ N. and 78° 37′ E., 115 miles from Madras by rail. Population (1901), 12,005, of whom no less than 7,594 were Labbais, a mixed race consisting partly of the offspring of Musalmāns and the women of the country and partly of converts from Hinduism. Many of these are very wealthy and engage in trade with all parts of India, especially, as at Vāniyambādi, in skins and hides. Other articles of commerce are grain, cloths, and oil. The town is situated mainly on two islands enclosed by the branches of the PĀLĀR river, and is liable to inundation in the rainy season. In 1874 the Pālār rose and washed away portions of the town. The floods of 1903 did even greater damage. On the night of November 17 the river rose suddenly and flooded the low-lying portions of the place, the water rushing

through some of the streets as much as 10 feet deep. It washed away many houses, and, though the majority of the people saved themselves by taking refuge on the roofs, 150 to 200 lives were lost. Fresh sites have been acquired to the east of the railway and the nucleus of a new town is rising. Vāniyambādi was created a municipality in 1886. The receipts and expenditure during the ten years ending 1902-3 averaged Rs. 23,200 and Rs. 23,100 respectively. The income in 1903–4 was Rs. 65,700 and the expenditure Rs. 39,600; of the former, Rs. 43,800 was contributed by Government, and the rest was principally derived from the house and land taxes.

Yercaud (*Er-kād*='lake-wood').—Sanitarium on the Shevaroy Hills, in the *tāluk* and District of Salem, Madras, situated in 11° 49′ N. and 78° 12′ E., at an elevation of 4,828 feet above sea-level. Population (1901), 7,787. It is steadily growing in favour as a hot-season resort, and contains good accommodation for visitors. The scenery is of great variety and beauty, and includes the charm (not obtainable in Ootacamund and Kodaikānal, for example) of views, from almost every point, over the plains below. The climate is delightful and equable, seldom rising above 75° and never falling much below 60°; and interesting excursions can be made to many points of interest. All round are the coffee estates of European planters. It is easily reached by the cart road recently opened from Salem railway station, distance 20 miles.

COIMBATORE DISTRICT

Boundaries, configuration, and hill and river systems.

Coimbatore District (*Koyamuttūr*).—An inland District in the south of the Madras Presidency, lying between 10° 15′ and 11° 18′ N. and 76° 39′ and 78° 14′ E., with an area of 7,860 square miles.

West and south it is bounded by the highest hills in the Presidency, the Nīlgiris and the Anaimalais, the latter of which are perhaps the most striking range in Southern India, consisting of a series of plateaux, some rising to 7,000 feet in elevation, with forests of great importance. Through the three northern *tāluks* run the confused hills of the Eastern Ghāts, one of which, Kollegāl, is on a higher level than the rest of the District. Excluding this, the centre of Coimbatore consists of an open plain, sloping gradually eastwards away from the hills towards the river CAUVERY, the eastern boundary of the District. The plain is broken here and there by isolated low hills; but otherwise, except in the level black cotton soil tracts in the Udamalpet, Palladam, and Coimbatore *tāluks*, it is made up of a succession of gentle undulations between which the rivers run. Its scenery differs little from that of the adjoining east coast Districts, except that the frequent green patches of cultivation near its numerous wells give it in the dry season an unusually prosperous look. The spurs of the Eastern Ghāts in the three northern *tāluks* form two well-marked minor ranges, known as the Biligiri-rangans and the Bargūr hills. The former, which consist of two ridges running up into peaks of over 5,000 feet, lie on the extreme west of the Kollegāl *tāluk*, extending into Mysore territory. The latter stand between the Bhavāni and Kollegāl *tāluks* and are called after a village which lies among them. They form a long narrow plateau over 3,000 feet in height. In both of these ranges the scenery is always picturesque, while in many of the lower valleys the heavy jungle is particularly wild. Of the hills on the western frontier of the District the most conspicuous are Rangaswāmi Peak and Lambton's Peak.

Except the Aliyār, an unimportant stream, all the larger rivers run eastwards, following the trend of the ground, into the Cauvery, the most important river of the District and the boundary along the whole of its northern and eastern sides.

At the north-west corner of Kollegāl this forms the famous Falls of SIVASAMUDRAM, well-known for their beauty, and now utilized to generate electricity for the machinery at the Kolār gold-fields, and for lighting the city of Bangalore. The Bhavāni, a perennial river, which rises in the Attapādi valley in Malabar, crosses the District from west to east just south of the three northern upland *tāluks*, and flows into the Cauvery at Bhavāni town. The Noyil, a fitful and uncertain stream, which is in high and rapid flood for a few days and then for months together almost dry, has its source in the Bolampatti valley among the outlying spurs of the Nīlgiris, and passes through Coimbatore city on its way to the Cauvery. The Amarāvati rises in the Anaimalai hills, receives the drainage of the northern slopes of the Palni hills in Madura District, and, after passing through Dhārāpuram and Karūr towns, joins the Cauvery at the point where the Districts of Coimbatore and Trichinopoly touch one another.

Most of the south of the District is composed of Archaean gneisses buried to a considerable extent under surface alluvium. The uniform level of the plain is sparingly broken at irregular intervals by small bands of members of the charnockite series of rocks, by one small band of syenite gneiss near Kāngayam, and by upstanding crags and ridges of crystalline schists. The northern hilly tracts include a vast area of charnockite rock. Near Kollegāl are a few ferruginous bands and poor quartz reefs. Near Kāngayam some very coarse ramifications of acid pegmatites once yielded beryl; and in the same locality corundum, which also occurs elsewhere, is found in a coarse red felspar rock. Geology.

The flora is naturally very varied, since the elevation and the rainfall of the District differ greatly in different parts. The higher plateaux of the Anaimalais, the low hills of the northern *tāluks*, and the dry central plain each possess their own characteristic plants and trees. The forest growth and the commoner crops are referred to briefly below. In the low country the trees differ little from those of neighbouring areas, and are usually of poor growth. Fruit trees are scarce. The well-known *tangedu* (*Cassia auriculata*), the bark of which is used in tanning, and fibres, resins, and vegetable oils of the common descriptions are abundant. Botany.

The hill country contains all the game usual to such localities. Elephants are common in the Anaimalais and also occur in the Biligiri-rangan hills in Satyamangalam. Near Hāsanūr in the latter *tāluk* Sir Victor Brooke shot (in 1863) the largest elephant Fauna.

on record in this Presidency. It stood 11 feet 4 inches at the highest point of its back, and one of its tusks measured 8 feet in length and weighed 90 lb., the other being diseased.

Among rarer animals are the Nīlgiri ibex (*Hemitragus hylocrius*), the hunting leopard (*Cynaelurus jubatus*), *nīlgai* (*Boselaphus tragocamelus*), said to be descended from some tame ones which belonged to Tipū Sultān, and an occasional wolf. There are mahseer of unusual size in the Bhavāni and Cauvery.

Climate and temperature.

The lower hills of the District are malarious, especially from February to June, but elsewhere the climate of Coimbatore is unusually dry and proportionately healthy. The temperature varies inversely with the altitude, being highest in the low-lying Cauvery valley, more moderate in the uplands on the west, pleasant in the Kollegāl *tāluk*, as cool as the Salem Shevaroys in the Bargūr hills, and coolest of all on the higher ranges of the Anaimalais. The average mean of the year at Coimbatore city is 80°, compared with 83° at Madras.

Rainfall.

The rainfall, like the temperature, varies considerably in different parts of the District. The Kollegāl *tāluk* receives some of the south-west monsoon and consequently has the heaviest fall, and the Pollāchi *tāluk* gets more rain than the Cauvery valley or the central plain of the District. This plain is the driest tract in the Presidency, except the centre of Bellary District. The average annual fall for the whole District is about 26 inches. The rainfall is, however, exceedingly capricious and uncertain, and the country is liable to frequent cycles of continuous deficiency in the monsoons, causing long droughts. Thirty-one lives were lost in an earthquake which occurred on February 8, 1900.

History.

The District was never a political entity and its history is not of particular interest. Coimbatore and the south-western *tāluks* of the present Salem District formed the Kongu country, and Coimbatore is still called the Kongunād. During the ninth century the Kongu country passed under the Chola kings, who held it for nearly 200 years. It then broke up into a number of small principalities, which during the eleventh century fell an easy prey to the Hoysala Ballāla kings of Mysore. In the fourteenth century, this dynasty in its turn gave way to the kingdom of Vijayanagar, which held the country until its downfall in 1565. Coimbatore then came into the hands of the Vijayanagar deputy at Seringapatam, who, like his colleagues, had assumed independent powers, and shortly afterwards passed from him to the deputy at Madura. During the second half

of the seventeenth century the whole District seems to have been a prey to constant wars and raids, owing to the conflict between the Vijayanagar deputies and the growing power of Mysore. Kāveripuram was attacked in 1644, Satyamangalam was taken in 1653, Erode and Dhārāpuram in 1667, and before Chikka Deva Rājā of Mysore died in 1704 the whole of the District had come under his dominion. But it continued to be largely ruled through the agency of *poligārs*, or petty chieftains, whose powers were almost absolute and who used them ruthlessly, and the people gained little by the change of sovereigns. In 1761 Haidar Alī usurped the Mysore throne. During the forty years of Muhammadan rule which followed, until the District passed to the Company after the defeat and death of Haidar's son Tipū Sultān at Seringapatam in 1799, it was the scene of incessant marches and countermarches, advances and retreats, by the British and the Mysore troops; and the forts scattered through it, notably those at Erode, Karūr, Dhārāpuram, and Coimbatore, were constantly taken and retaken in the numberless engagements which occurred. On four distinct occasions the District became the field of conflict between the British and Mysore powers. At the end of 1760 an English force took Karūr, in retaliation for the assistance rendered in that year by Haidar to the French near Pondicherry; but, owing to the fact that Haidar was about this time expelled from Seringapatam and the Mysore officers in this District disclaimed any connexion with his acts, hostilities were carried no farther. In 1768, while Haidar was busy on the west coast, Colonel Wood marched through the District and, having completely conquered it, garrisoned the passes and the chief fortified places. His garrisons, however, were weak, and, in spite of the heroic resistance of some of them, every place in the District either fell or was abandoned before Haidar's advance at the end of the same year. In what is called the first Mysore War, while Tipū was engaged on the west coast in 1783, Colonel Lang entered Coimbatore to effect a diversion and took Karūr and Dhārāpuram; and later in the same year Colonel Fullarton marched through the District to relieve Mangalore, taking Coimbatore on the way. In the second Mysore War the District was the scene of considerable operations, since General Medows occupied it with a large force in 1790 and designed to invade Mysore by the Pass of Gazalhatti. In September of the same year, however, Tipū descended that pass with a large army, and, after two stubborn engagements with Colonel Floyd at Satyamangalam, compelled the British forces to retreat and

reoccupied all the forts in the District except Coimbatore and Karūr. Of these, Coimbatore fell after a gallant defence in the following year, and Karūr was restored to Tipū after the peace of 1792. Seven years later the District passed under British rule. Haidar had done something to check the *poligārs'* exactions; but his taxes were excessive, trade was crushed by numerous duties, and the peasantry were at the mercy of the troops who continually overran their villages, so that, when the British took it over, the District was in a pitiful condition.

Archaeology.

Throughout the District, even on the Anaimalais, are scattered prehistoric kistvaens, which have been found to contain bones, pottery, implements, ornaments, and bronze images, and in one case 'punch-marked' coins. Several discoveries of Roman coins[1], chiefly of Augustus and Tiberius, have been made. Jain temples and remains are not infrequent. The most noteworthy Hindu temple is that at PERŪR, but even this is a modern erection and the work in it is pretentious and coarse.

The people.

The number of towns and villages in the District is 1,445. The population in 1871 was 1,763,274; in 1881, 1,657,690; in 1891, 2,004,839; and in 1901, 2,201,752. The decline in 1881 was due to the great famine of 1876-8. About 97 per cent. of the people are Hindus and more than 2 per cent. Musalmāns. The District is divided into ten *tāluks*—Bhavāni, Coimbatore, Dhārāpuram, Erode, Karūr, Kollegāl, Palladam, Pollāchi, Satyamangalam, and Udamalpet—statistical particulars of which, according to the Census of 1901, are appended:—

Tāluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Kollegāl . .	1,076	1	122	96,563	90	+ 9·1	4,020
Erode. . .	598	1	198	275,460	461	+ 11·5	10,553
Bhavāni . .	715	1	62	145,982	204	+ 21·8	4,480
Dhārāpuram .	853	1	83	271,127	318	+ 7·2	12,825
Karūr . .	612	1	95	220,843	361	+ 4·3	11,595
Coimbatore .	812	1	263	330,684	407	+ 7·6	25,544
Satyamangalam .	1,177	1	175	214,101	182	+ 16·3	7,375
Pollāchi . .	710	1	158	195,608	276	+ 6·5	11,179
Palladam . .	741	1	193	300,904	406	+ 11·3	12,992
Udamalpet . .	566	1	86	150,480	266	+ 7·9	10,746
District total	7,860	10	1,435	2,201,752	280	+ 9·8	111,309

[1] See *Catalogue No. 2 of Roman, Indo-Portuguese, &c., Coins in the Madras Museum*, by E. Thurston (Madras, 1894).

The head-quarters of these (except of Satyamangalam, which is at GOPICHETTIPĀLAIYAM) are at the places from which each is named. The chief towns are the municipalities of Coimbatore, the administrative head-quarters of the District, Erode, and Karūr.

Owing to the large areas of forest which Coimbatore comprises it is less densely populated than the other southern Districts of Madras; but during the decade 1891–1901 the inhabitants increased at an unusual rate, the advance in the sparsely peopled *tāluks* of Bhavāni and Satyamangalam being specially notable, notwithstanding that considerable numbers emigrated to the Nīlgiris and Madura. Though the District is in the Tamil country, as many as 21 per cent. of the people speak Telegu; and in the Kollegāl *tāluk* Kanarese, the language of the adjoining State of Mysore, is spoken by 78 per cent. of the inhabitants.

Their castes and occupations.

By far the most numerous caste in Coimbatore are the agriculturist Vellālas, who are twice as strong here as in any other Madras District except Salem, numbering 690,000, or 31 per cent. of the population. Other common cultivating castes are the Kanarese Vakkaligas and the Telugu Kammas and Tottiyans. After the Vellālas come the Chakkiliyans (leather-workers), who number 197,000, being more than twice as numerous as in any other District. Next come the Shānāns (toddy-drawers), 79,000; and after them the Paraiyans (field-labourers), 76,000; and the Oddes (well-sinkers and earth-workers), 74,000. Other castes which appear in strength are the Pallans and Pallīs, who are also mainly field-labourers, and the weaving communities of the Kaikolans, Devāngas, and Janappans. Brāhmans are unusually few, numbering only 36,000, or less than 2 per cent. of the population. These statistics correspond with those of the occupations of the people; for though the District is essentially an agricultural one, 65 per cent. of the people living by the land, it is less so than most, owing to the unusually large proportion who are toddy-drawers, leather-workers, earth-workers, and weavers. Among castes which are seldom found elsewhere may be mentioned the two jungle tribes of the Sholagas of the North Coimbatore hills and the Malasars of the Anaimalais.

Christian missions.

Of the 17,800 native Christians in the District over 15,000 are Roman Catholics. The Jesuit Fathers of the famous Madura Mission[1] had a chapel at Dhārāpuram as early as 1608. In 1739 a Bull of Pope Clement XII, prohibiting

[1] See the four volumes of *La Mission du Maduré* (Paris, 1847–48, 1865).

certain Hindu customs tolerated till then, caused dissensions and apostasy. Then came the cessation of support from Portugal, and finally the suppression of the Society of Jesus by Clement XIV in 1773. The missionaries struggled on nevertheless; and in 1845 they were formed into a distinct mission, in charge of the French priests of the Société des Missions Étrangères, which in 1850 was made a bishopric. The London, Leipzig Evangelical Lutheran, and Wesleyan Methodist are the chief Protestant missions. These have been working in the District for about the last seventy, forty, and twenty years respectively.

General agricultural conditions.

The Kollegāl *tāluk* differs as much from the rest of the District in agricultural conditions as it does in climate and altitude. Elsewhere gneiss is the chief underlying rock, and the soils derived from it are of fair composition, chemically considered. The four eastern *tāluks*, Bhavāni, Erode, Dhārāpuram, and Karūr, are covered almost entirely with thin gravelly, sandy, or agglomerated calcareous soils, and these soils occupy more than half of the western *tāluks* also. In three of the latter, however, Coimbatore, Palladam, and Udamalpet, more than one-sixth of the cultivable area consists of black cotton soil, while in the two others, Pollāchi and Satyamangalam, there is a good deal of rich red loam. At the foot of the undulations of which all this part of the District consists is generally a layer of better soil, which the light rainfall has washed down from the higher ground, and these bottoms are more than usually fertile. In them are to be found the majority of the numerous wells for which the District is noted. Both 'wet' and 'dry' crops on all classes of soil are mostly matured with the help of the north-east monsoon in October and November.

Chief agricultural statistics and principal crops.

The District is almost entirely *ryotwāri*, the *zamīndāri* and *inām* lands covering only 684 square miles. The area for which particulars are on record is 7,672 square miles, statistics of which for 1903-4 are given on the next page, in square miles.

The staple food-grains of the District are *cholam* and *cambu*, the areas under which in 1903-4 were 1,033 and 1,010 square miles, or 26 and 25 per cent. respectively of the total area cropped. *Cholam* is the most prominent crop of the southern and western *tāluks*, and *cambu* of the east and north of the District. Next in importance come various pulses and *rāgi*. About one-fourth of the latter is grown in Kollegāl. Rice occupied only 193 square miles in 1903-4. Cotton is mainly grown in the Erode, Palladam, and Udamalpet *tāluks*, and

sugar-cane in Coimbatore and Udamalpet. Tobacco is an important crop everywhere except in Erode and Kollegāl, and there are about 1,400 acres under coffee. In Kollegāl 8,000 acres produce mulberry, which is cultivated to feed the silk-worms bred there.

Tāluk.	Area shown in accounts.	Forests.	Cultivable waste.	Cultivated.	Irrigated.
Kollegāl	1,187	718	239	162	11
Erode	600	16	6	520	92
Bhavāni	715	372	70	253	36
Dhārāpuram	854	5	5	776	106
Karūr	575	3	4	506	61
Coimbatore	814	208	31	500	71
Satyamangalam	1,056	534	45	379	72
Pollāchi	584	200	1	349	38
Palladam	739	..	7	672	117
Udamalpet	548	222	..	295	67
District total	7,672	2,278	408	4,412	671

Improvements in agricultural practice.

The extension of the area of holdings during the last thirty years has amounted to 5 per cent., though three-fourths of the arable area in Kollegāl and considerable tracts in Satyamangalam, Bhavāni, and Coimbatore are still unoccupied, nor has much been done to improve the quality of the crops grown. Bourbon cotton was introduced at the beginning of the last century, succeeded well, and is still largely grown; but extensive experiments with American varieties have failed. The Mauritius sugar-cane has, however, ousted the indigenous variety. The ryots have availed themselves of the Land Improvement Loans Act far more freely than in any other District in the Presidency. During the sixteen years ending 1904 more than 15 lakhs has been advanced under the Act, the greater portion of which has been laid out in digging or repairing wells.

Cattle, ponies, and sheep.

The chief breeds of cattle in the District are the Alambādi, Bargūr, and Kāngayam. The first are best for heavy draught, the second as trotters, and the last as dairy cattle. The Alambādis are sent to the great cattle fair at Madura and to other markets in the southern Districts. There are large local fairs at Mādeswaramalai, in the Kollegāl hills, Avanāshi, and TIRUPPUR[1]. Ponies have long been bred by the *zamīndārs* and

[1] For further particulars, and an account of the breeding herd of the Pattagar of Pālaiyakkottai in this District, and of the grasses grown for pasture, see Bulletins Nos. 8, 27, and 44 of the department of Land Records and Agriculture.

wealthier ryots in Coimbatore; and since 1885 Government has encouraged the enterprise by supplying stallions, eight of which are now stationed in various towns in the District. The annual pony shows held under Government control at Tiruppūr have demonstrated that an improvement in the breed has already taken place and that a further advance may be looked for. Sheep are of two breeds, the Kurumba and the Semmeri. The former is a black-faced sheep with white wool. The Semmeri sheep are brown, and covered with hair instead of wool, and are valued only for their flesh. Goats are bred mainly for their manure.

Irrigation. Of the total area of *ryotwāri* and 'minor *inām*' land cultivated, 671 square miles, or 19 per cent., were irrigated in 1903–4. Of this as much as 502 square miles were watered from wells, while Government canals irrigated 119 square miles, and tanks only 35 square miles. The Cauvery supplies about 5,500 acres, of which 1,000 are in the Kollegāl *tāluk* and the remainder in Karūr. Various channels from the Amarāvati, fed by *korambus*, or temporary dams across the river, irrigate 44,000 acres of first and second crop in the Udamalpet, Dhārāpuram, and Karūr *tāluks*. Two dams across the Bhavāni irrigate 39,000 acres in the Satyamangalam and Erode *tāluks*. Of the 151 tanks in the District, the only ones of importance are the Appakkudal chain in the Bhavāni *tāluk*, fed by streams from the Bargūr hills, and the Dhali series in the Udamalpet *tāluk*, supplied from the Anaimalais. The wells of the District are its mainstay. They irrigate three times the area which the Government channels and tanks supply, and are unfailing in all but the severest droughts. About 74,000 of them are in working order, and they permit the growth of two and even three crops a year on the land commanded by them. Leathern buckets drawn up with a rope and pulley by cattle working down an inclined plane are universally used for lifting the water.

Forests. Coimbatore is one of the few Districts in the Presidency which has real forests, as distinguished from the patches of scrub and small trees which make up the greater portion of the technical forest area. It consequently has two District Forest officers, instead of one as usual, whose charges are known as North and South Coimbatore. The District possesses 2,008 square miles of 'reserved' forests, besides 270 square miles, mainly in Kollegāl, of 'reserved' land at the disposal of the Forest department.

In North Coimbatore nearly the whole of the forests are in the three hilly northern *tāluks* of Bhavāni, Kollegāl, and

Satyamangalam. The greater part of these are at present chiefly valuable as grazing-ground for cattle. They must have been at one time much finer than at present; but, owing no doubt to the large number of villages situated in the 'reserved' area, they have suffered from forest fires and perhaps from excessive grazing. At present they form only a poor catchment area for water, which is apt to flow down to the plains in sudden and destructive floods after rain. Still, though the trees are small, there are a number of valuable species. Sandal and cutch form an almost continuous belt running from the west of Satyamangalam to the east of Bhavāni. In patches along the valley of the Cauvery the hills are covered with *acha* (*Hardwickia binata*), and teak is found in the Bargūr hills, in some of the valleys of Kollegāl, and on the plateau above Satyamangalam. *Vengai* (*Pterocarpus Marsupium*) is common almost everywhere, *jāl* (*Shorea Talura*) is fairly abundant, blackwood (*Dalbergia latifolia*), *Eugenia*, *Terminalia*, and many other valuable species occur frequently in the damper areas, while the drier parts contain a considerable amount of satin-wood, *Albizzia*, and *Anogeissus*. A large revenue is obtained from minor forest produce, the principal items being tanning material in the shape of myrabolams and *tangedu* bark (*Cassia auriculata*), while soap-nuts (*Sapindus trifoliatus*), *sīkāy* (*Acacia concinna*), *vembādam* bark (*Ventilago madraspatana*), and honey and wax are also of importance.

The most important part of the South Coimbatore forests lies on the Anaimalais, in the Pollāchi and Udamalpet *tāluks*, and is described in the account of that range. In the Coimbatore *tāluk* the forests run along the western frontier and consist chiefly of those lying up the Bhavāni valley, those about Lambton's Peak range south of this, and those in the Bolampatti valley yet farther south. The Bhavāni valley forests produce fair blackwood and *vengai* and excellent *ventek* (*Lagerstroemia microcarpa*) and wild mango, but the difficulties of transport are great. The Bolampatti forests also produce fine blackwood and *vengai*, but their chief value lies in the protection they give to the headwaters of the Noyil river. In 1903-4 the receipts from the forests amounted to Rs. 2,74,000, and the charges to Rs. 2,15,000. Of the former the most considerable items were timber (Rs. 66,000, of which all but Rs. 5,000 came from South Coimbatore), grazing fees (Rs. 67,000, of which Rs. 56,000 came from the northern division), sandal-wood (Rs. 28,000, all of which came from the same tract), and firewood and charcoal (Rs. 23,000).

Minerals.

The minerals of the District are hardly worked at all. In Bhavāni and Satyamangalam iron is rudely smelted in small quantities from the black iron-sand, and being much harder than English iron is in considerable demand. In Kollegāl and Satyamangalam the old gold-workings have lately been under exploration[1]. Saltpetre is obtained in large quantities by lixiviating the alkaline soils during the hot season in shallow mud vessels, and then boiling the resultant liquid in large pans. The process gives a crude saltpetre fit for manure. For pure saltpetre a second or even a third boiling is necessary. In 1903 as many as 871 native factories and fifteen refineries were reported to be at work. Saltpetre is coming into increasing use as a manure on coffee estates. A mine near Kāngayam produced beryl of some value in 1819–20, when it was last worked. It has been suggested[2] that this mine was the source of the Indian beryl mentioned by Pliny, and that the export to Rome is the main reason for the numerous finds of Roman coins which have been made in the District. Corundum is worked by natives in an irregular fashion at Salangaippālaiyam, 8 miles from Bhavāni, at Gopichettipālaiyam, and at Sivanmalai in the Dhārāpuram *tāluk*. The last-named deposits are the richest[3].

Arts and manufactures.

The only important arts in the District are cotton- and silk-weaving and the making of cotton carpets. Cotton-weaving is of the ordinary kind, only coarse cloths being made. Silk-weaving is carried on only in the Kollegāl *tāluk*, where silkworms are bred in considerable numbers. The dyes used are good, and the cloths effective and handsome. In some cases they are ornamented by the introduction of gold and silver embroidery, and the gold-laced cloths and kerchiefs are well-known. These sometimes sell for as much as Rs. 300 each, and even more, according to the quantity and quality of the embroidery, which, in the highest-priced cloths, is woven in intricate and elegant designs into the texture of the cloth while still on the loom. The cloths are sold locally, or sent to Madras, Bangalore, and Mysore. Small cotton carpets are made at Bhavāni. White yarn, spun at the Coimbatore mills, is used for the warp, and the cotton for the woof is dyed locally. The Cauvery water is said to make peculiarly brilliant and fast dyes. The carpets are sold locally or sent to

[1] For a detailed account of the matter see *Memoirs of the Geological Survey of India*, vol. xxxiii, pp. 53–67.

[2] *Indian Antiquary*, vol. v, p. 237.

[3] See Part I (Corundum) of the Economic Section of the *Manual of the Geology of India* (Calcutta, 1898).

Trichinopoly and Madras. At Settipālaiyam near Tiruppūr a few families of lapidaries grind crystals on emery disks for spectacles, and also make them into *lingams* and other sacred images. At Anaipālaiyam, a neighbouring village, good bell-metal gongs are manufactured, the constituents of the particular alloy used being a trade secret.

There are eight cotton-cleaning and pressing factories in the District. Five of these have been working for many years, and four are driven by steam. They clean or press the local cotton for export to Bombay and England, and employ an average of 300 hands daily, and press annually 3,000 tons of cotton, valued at 15 lakhs. At Coimbatore there is a recently established spinning-mill. Particulars of this and other industrial enterprises there are given in the article on that city. Leather-making is an important industry in the District. There is a tannery under European management at Coimbatore, and another at Mettupālaiyam. Leathern buckets for the numerous wells in the District are made in thousands annually, as each well requires a new bucket once a year.

The chief exports are cereals and pulses, chillies, turmeric, spices, cotton, oilseeds, tobacco, *ghī*, sandal-wood, plantains, jaggery, brass and copper vessels, cattle, and leather; while the main imports include rice, salt, salt fish, piece-goods and twist, metal and metal goods, and coco-nut oil. Exports and imports are mainly to and from the neighbouring Districts, but the cotton from the northern *tāluks* goes to Madras and that from the southern to the cotton presses in Madura and Tinnevelly, the latter mainly by carts, which come in from those parts by the thousand during the cotton harvest. The jaggery goes chiefly to the west coast by road and rail through the Pālghāt gap; the tobacco largely to the same country and to North Arcot, where it is cured by Muhammadan dealers. Much of the *ghī* goes to Mysore. Coco-nut oil is chiefly imported from Malabar. Coimbatore and Dhārāpuram are the chief centres of general trade and Palladam of the cotton trade; and the principal trading castes are the Chettis and Labbais. The Nāttukottai Chettis, the banking sub-caste of the former, are numerous in Udamalpet and Karūr; and of the Labbais a large proportion are to be found in the Karūr *tāluk*, especially at Pallapatti. Most of the internal trade is effected at the numerous weekly markets. These are managed by the local boards, and in 1901 nearly Rs. 50,000 was collected in fees. The most important are those at Pollāchi, Kunnattūr, and Kāṅgayam.

Commerce.

Railways and roads.

The south-west line of the Madras Railway (standard gauge) enters the District on the east about 2 miles from Erode, and runs across to the Pālghāt gap on the western frontier. From Podanūr a branch leads off to Mettupālaiyam, which is the terminus of the metre-gauge rack railway to Coonoor. The South Indian Railway enters the District near Puliyūr and skirts the Cauvery up to Erode, where it joins the Madras Railway. It was converted to metre gauge in 1879. Other railways are under consideration, among them a metre-gauge line from Pālghāt or Podanūr junction to Palni in Madura District by way of Pollāchi and Udamalpet, and another from Erode to Nanjangūd in the State of Mysore through Satyamangalam.

The total length of metalled roads is 1,269 miles, and of unmetalled roads 459 miles. All these, except 40 miles of metalled and 20 miles of unmetalled road in charge of the Public Works department, are maintained from Local funds. There are avenues of trees along 1,572 miles. The southern part of the District is well supplied with communications, but through the country above the Ghāts in the three northern *tāluks* only two roads are practicable for carts, the Bargūr *ghāt* and the Hāsanūr *ghāt*. The Gazalhatti Pass in the extreme west is a stony track leading up to the Mysore plateau. It was formerly the chief road from Coimbatore to Mysore, but is now used only by pack animals.

Famine.

The District has suffered from constant scarcities, owing to the lightness of its rainfall and the absence of large irrigation works. The last ninety-three years have been tabulated as 6 good; 25 fair; 51 unfavourable; and 11 really bad. In 1861 both monsoons failed, prices of 'dry' grains nearly doubled, and state relief was necessary. In 1866 the south-west rains again entirely failed and the north-east monsoon was very light, so that relief was once more required. In the great famine of 1876–8 the District suffered very severely. At the height of the famine, in September, 1877, 30,000 persons were on relief works and 204,000 in receipt of gratuitous relief. It was calculated that more than 197,000 persons died of famine or the diseases that accompany it. Including advances to agriculturists and weavers, and remissions of land revenue, the famine in this District alone cost the state 50 lakhs. The last scarcity was in 1891–2. In September, 1891, nearly 7,000 persons were on relief works and 460 more were in receipt of gratuitous relief. It is estimated that during this season 127,000 cattle died. Including remissions, the state expended Rs. 1,36,060.

District subdivisions and staff.

For general administrative purposes the District is distributed into four subdivisions, one of the officers in charge of which is usually a member of the Indian Civil Service and the others Deputy-Collectors recruited in India. These subdivisions are Erode, comprising the Bhavāni, Dhārāpuram, Erode, and Karūr *tāluks*; Pollāchi, comprising Pollāchi, Palladam, and Udamalpet; and Coimbatore and Kollegāl, the former consisting of the Coimbatore and Satyamangalam *tāluks* and the latter of Kollegāl alone. There is a *tahsīldār* at the head-quarters of each of the *tāluks* and, except at Bhavāni and Kollegāl, a stationary sub-magistrate also. The superior staff of the District contains the usual officers, except that, as has already been mentioned, there are two District Forest officers.

Civil justice and crime.

There are four regular District Munsifs, and the Deputy-Collector and Magistrate of Kollegāl exercises the powers of a District Munsif throughout that *tāluk* and in the portion of Satyamangalam which lies above the Ghāts. Appeals from the Sub-Judge of Ootacamund and the District Munsif's Court of Gūdalūr in the Nīlgiris, where there is no District Court, lie to the District Judge of Coimbatore. The Court of Session hears the sessions cases of the Nīlgiris as well as those which arise within the District itself. Murders, dacoities, and cattle-thefts fluctuate in numbers, as elsewhere, with the state of the season, but are more than usually common. Murders proceed in a large majority of cases from private personal motives. The frequency of dacoity and cattle-theft may in part be ascribed to the precarious livelihood which cultivation offers in so arid a tract, and in part to the proximity of Madura District, whence the Kallans, perhaps the most expert criminals in the Presidency, come over to Coimbatore to ply their profession. The system, which is firmly established in Madura, of paying thieves *tuppu-kūli*, or 'clue-hire,' for the recovery of stolen property, instead of reporting the theft to the police, has also obtained a strong hold in Coimbatore.

Land revenue administration.

Little is known of the revenue history of the District prior to the time when the kingdom of Mysore was usurped by Haidar Alī. Chikka Deva Rājā of Mysore (1671–1704) made a regular survey of the country. He took two-thirds (in kind) of the gross produce of 'wet' lands, leaving the ryot one-third. When Haidar came into power at Mysore he apparently adopted this survey as the basis of his assessments, but he collected all his rents in money in a single payment, and not by instalments as is now the practice. This forced the ryots to sell immediately after the harvest at ruinously low prices,

and much land was consequently abandoned. Tipū Sultān increased all the assessments by 25 per cent., and yet more land went out of cultivation in consequence; but he was never able to collect this exorbitant demand, and at his death the arrears were enormous, and only the garden lands and some 'wet' land had any sale value.

Major McLeod, who was the first British Collector of the country north of the Noyil river, the area south of this being included in the then Dindigul District, began in 1800 a regular survey of the Government[1] villages in the District, which he followed by a rough settlement. In the southern part of the District, the Collector (Mr. Hurdis) made a survey and proceeded to estimate the grain-producing value of each field, a new idea in those days, and to commute the Government share into a money payment. Neither attempt was successful, the demand in both cases being more than the land could bear. The District as it exists at present was formed in 1805, Coimbatore being made its head-quarters. In 1808 the theory of permanent settlements had come into favour, and the District was divided into a number of small revenue farms of two or three villages apiece which were leased to village headmen and wealthy ryots. This lease system was a complete failure owing to the abuses perpetrated by the renters, and the revenue fell from 21 to 17 lakhs. In 1815 the *ryotwāri* system was restored. A new survey and settlement, resulting in a considerable reduction of assessment, were made; but many of the undesirable characteristics of the old native régime were continued, and it was not until 1864 that revenue administration had reached the present stage. In 1860 a new survey of the District was begun, and in 1872 a resettlement was put in hand, which was completed in 1882. The survey found an excess in the cultivated area of 6½ per cent. over the amount shown in the accounts, and the settlement enhanced the total revenue by 8 per cent., or a little over 2 lakhs. The average assessment on 'dry' land is R. 0-14-7 per acre (maximum, Rs. 2; minimum, 4 annas), and that on 'wet' land Rs. 6-7-6 (maximum, Rs. 12; minimum, Rs. 2½). The revenue from land and the total revenue in recent years are given below, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	28,50	30,96	33,76	34,94
Total revenue . .	34,61	43,98	51,27	55,25

[1] The *zamīndāris* were granted on a fixed permanent rent once for all.

Local boards.

Outside the three municipalities of Coimbatore, Karūr, and Erode, local affairs are managed by the District board, and by the four *tāluk* boards of Coimbatore, Erode, Pollāchi, and Kollegāl, the areas under which correspond with those of the four administrative subdivisions. The total expenditure of these boards in 1903–4 was about $4\frac{1}{2}$ lakhs, nearly half of which was laid out on roads and buildings. The chief source of their income is, as usual, the land cess. In addition, the affairs of 21 of the smaller towns are managed by Union *panchāyats* established under Madras Act V of 1884.

Police and jails.

The District Superintendent of police at Coimbatore has general control over the Nīlgiri District as well as his own. The Nīlgiris and Coimbatore together have 84 police-stations; and the force, in 1904, numbered 1,488 constables and 1,564 rural police, under 20 inspectors. Besides the Coimbatore Central jail, there are 15 subsidiary jails, which can collectively accommodate 270 persons.

Education.

According to the Census of 1901 Coimbatore stands twelfth among the Districts of the Presidency in the literacy of its population, of whom 5·1 per cent. (9·7 males and 0·6 females) are able to read and write. Education is most advanced in Coimbatore, and most backward in the Satyamangalam, Kollegāl, and Bhavāni *tāluks*. The total number of pupils under instruction in 1880–1 was 12,485; in 1890–1, 26,946; in 1900–1, 39,724; and in 1903–4, 39,559. On March 31, 1904, there were 1,065 primary, 30 secondary, and 5 special schools, besides 2 colleges. The girls in these numbered 4,341. Besides the public schools, 179 private schools contained 3,172 male and 408 female scholars. Of the 1,102 institutions classed as public, 8 were managed by the Educational department, 103 by the local boards and 12 by municipalities, while 574 were aided from public funds, and 405 were unaided but conformed to the rules of the department. The enormous majority of the pupils under instruction are only in primary classes, and the number of girls who have advanced beyond that stage is extremely small. The improvement in all directions during the last thirty years has, however, been very marked. Of the male population of school-going age 18 per cent. were in the primary stage of instruction in 1903–4, and of the female population of the same age 3 per cent. Among Musalmāns (who, however, form a very small proportion of the population) the corresponding percentages were 76 and 9. About 2,700 Panchama pupils were under instruction at 111 schools especially maintained for

depressed castes. The two colleges are in Coimbatore city, to which place will also be moved the College of Agriculture of the Province, now located at Saidapet. The total expenditure on education in 1903-4 was Rs. 2,94,000, of which Rs. 1,11,000 was derived from fees. Of the total more than half was devoted to primary education.

Hospitals and dispensaries. The District possesses 12 hospitals and 12 dispensaries, with accommodation for 132 in-patients. In 1903 the number of cases treated was 220,000, of whom 1,500 were in-patients, and 7,400 operations were performed. The expenditure was Rs. 54,000, the greater part of which was met from Local and municipal funds.

Vaccination. In regard to vaccination the District has been backward of late years, but during 1903-4 the number of persons successfully vaccinated was 28 per thousand, or only a little less than the mean for the Presidency (30) Vaccination is compulsory in the 3 municipalities and in 15 of the 21 Unions.

[Sir F. Nicholson, *District Manual*, 1887, and H. A. Stuart, Revised edition, 1898.]

Kollegāl Tāluk.—Northern *tāluk* and subdivision of Coimbatore District, Madras, lying between 11° 46′ and 12° 18′ N. and 76° 59′ and 77° 47′ E., with an area of 1,076 square miles. The Cauvery river bounds it on three sides, forming at its north-west angle the famous Sivasamudram island and Falls. The population in 1901 was 96,563, compared with 88,533 in 1891. There are 122 villages, and only one town, KOLLEGĀL (population, 13,729), the head-quarters. The demand for land revenue and cesses in 1903-4 amounted to Rs. 1,16,000. Kollegāl is the most sparsely peopled *tāluk* in the District, its population, which is mainly Kanarese as in the adjoining State of Mysore, numbering only 90 persons per square mile, while the average for the District is 280. Unlike the rest of Coimbatore, Kollegāl benefits considerably from the south-west monsoon, and its annual rainfall (35 inches) is the heaviest in the District. The southernmost spurs of the Eastern Ghāts run through it, forming on the west a well-marked minor range called the Biligiri-rangan hills; and it is on a higher level than the remainder of the District and really forms part of the adjoining Mysore plateau, the climate and temperature of which it shares. More than half of the *tāluk* consists of 'reserved' forest; but this is chiefly useful as a grazing-ground for cattle, for the Kollegāl ryot is more often a raiser of stock than a cultivator of arable land. The well-known Alambādi breed of draught-cattle comes from here.

Erode Subdivision (*Irōdu*).—Subdivision of Coimbatore District, Madras, consisting of the *tāluks* of ERODE, BHAVĀNI, DHĀRĀPURAM, and KARŪR.

Erode Tāluk.—Eastern *tāluk* of Coimbatore District, Madras, lying between 11° 2′ and 11° 27′ N. and 77° 22′ and 77° 55′ E., with an area of 598 square miles. The population in 1901 was 275,460, compared with 247,008 in 1891. There are 198 villages, and only one town, ERODE (population, 15,529), the head-quarters. The demand for land revenue and cesses in 1903-4 amounted to Rs. 5,07,000, a higher figure than in any other *tāluk*. Erode is a gently undulating plain with no hills of importance and but little forest, sloping gradually to the Cauvery river, which bounds it on the east. It is rather bare of trees, and in the valley of the Cauvery the climate is hot and close. The irrigated land is of a good class, much of it being fed by the Kalingarāyan channel from the Bhavāni river. Wells are also unusually plentiful. The rainfall averages 27 inches at Erode, but it is variable and partial. *Cambu* is the chief cereal, and much cotton is raised.

Bhavāni Tāluk.—North-eastern *tāluk* of Coimbatore District, Madras, lying between 11° 23′ and 11° 57′ N. and 77° 25′ and 77° 51′ E., with an area of 715 square miles. It is bounded on the east and south by the Cauvery and Bhavāni rivers, which unite at its south-east corner. In the north and west large portions are covered by the Bargūr hills, and consequently the *tāluk* is poorly supplied with roads. It lies off the railway, and has only one considerable town, BHAVANI (population, 8,637), the head-quarters, and 62 villages. The population rose from 119,869 in 1891 to 145,982 in 1901, showing an increase of nearly 22 per cent., which is greater than in any other *tāluk* in the District. The proportion of Christians is above the District average, being between 2 and 3 per cent. of the total population. Muhammadans are much fewer. The number of persons able to read and write is small as compared with other *tāluks*. The demand for land revenue and cesses in 1903-4 amounted to Rs. 1,55,000. More than half the *tāluk* is covered with forest. Of the cultivable area about a tenth is usually irrigated and a fourth is unoccupied. *Cambu* is much more widely grown than any other crop, and *cholam* and *rāgi* are also raised in fair quantities. The rainfall averages 29 inches annually at Bhavāni town, but is less in the west of the *tāluk*. A hard and valuable iron is smelted in small quantities, and corundum is worked

irregularly at Salangaippālaiyam; there is also a brisk trade in cloths and forest produce at Bhavāni; but otherwise there are no industries worth mentioning. The Bargūr cattle, bred in the hills of the same name, are of medium size, and, though rather intractable, are attractive in appearance, fast, and strong.

Dhārāpuram Tāluk.—Southern *tāluk* of Coimbatore District, Madras, lying between 10° 37′ and 11° 8′ N. and 77° 19′ and 77° 54′ E., with an area of 853 square miles. The population in 1901 was 271,127, compared with 252,847 in 1891. It contains one town, DHĀRĀPURAM (population, 17,178), the head-quarters, and 83 villages. The demand for land revenue and cesses in 1903–4 amounted to Rs. 4,47,000. The *tāluk* is an undulating plain, bounded on the north by the Noyil river and crossed by the Amarāvati, which irrigates a small area in the south. The rainfall is light, averaging only 20 inches annually, and the soil is mostly poor and sandy. The irrigated crops are consequently not particularly good, but the irrigation from the Amarāvati is excellent, and the area watered by wells is larger than in any *tāluk* except Palladam. As usual in the south of the District, *cambu* is by far the most common cereal, and much tobacco is raised with well-irrigation.

Karūr Tāluk.—South-eastern *tāluk* of Coimbatore District, Madras, lying between 10° 38′ and 11° 6′ N. and 77° 45′ and 78° 14′ E., with an area of 612 square miles. It is an open and undulating plain, with no hills or forests of note, bounded on the north by the CAUVERY river and traversed by the Amarāvati. It is poorly wooded and suffers from an unusually trying hot season. It has one town, the municipality of KARŪR (population, 12,769), the head-quarters, and 95 villages. The population in 1901 was 220,843, compared with 211,794 in 1891, the increase having been slower than elsewhere in the District. The demand for land revenue and cesses in 1903–4 amounted to Rs. 3,49,000. The soil is mostly of an inferior red or grey variety and is generally lightly assessed. The area irrigated by channels is larger than in any *tāluk* except Satyamangalam. These lead from the Amarāvati and the Cauvery, and this is the first *tāluk* in the Presidency in which the water of the latter is used to any considerable extent. The rainfall (averaging 26 inches annually) is fairly plentiful and regular, and the crops are generally good. *Cambu* is by far the most common cereal.

Coimbatore Subdivision.—Subdivision of Coimbatore District, Madras, consisting of the *tāluks* of COIMBATORE and SATYAMANGALAM.

Coimbatore Tāluk.—Western *tāluk* of the District of the same name, Madras, lying between 10° 49′ and 11° 24′ N. and 76° 39′ and 77° 10′ E., with an area of 812 square miles. The population in 1901 was 330,684, compared with 307,282 in 1891. The *tāluk* contains one town, COIMBATORE (population, 53,080), the head-quarters of the *tāluk* and the District, and 263 villages. The demand for land revenue and cesses in 1903–4 amounted to Rs. 4,29,000. The *tāluk* is flanked on the west by the Nīlgiri Hills, numerous outliers from which run down into it on that side, but on the east it consists of an open plateau with a very pleasant climate. One-fourth of it is covered by forest. Irrigation is chiefly from the Noyil river, which passes through the centre, but it is also known for its tanks. Six-sevenths of the 'dry' land is red sand or red loam of a good kind. As in the other northern and western *tāluks*, *cholam* is the chief crop, though *cambu* also is grown, and a considerable quantity of cotton.

Satyamangalam Tāluk.—North-west *tāluk* of Coimbatore District, Madras, lying between 11° 15′ and 11° 49′ N. and 76° 50′ and 77° 35′ E., with an area of 1,177 square miles. The population increased from 184,017 in 1891 to 214,101 in 1901, or by 16 per cent. Besides GOPICHETTIPĀLAIYAM (population, 10,227), the head-quarters, it contains 175 villages. The demand for land revenue and cesses in 1903–4 was Rs. 4,42,000. Almost half the *tāluk*, its northern and eastern portions, is covered by hills which contain excellent forests. Of the cultivable area about 13 per cent. is usually irrigated, and this contains a large proportion of the best classes of land in the District. It is fed mainly from the BHAVĀNI river, which traverses the *tāluk* from west to east, and the area watered by channels is larger than in any other *tāluk*. On the 'dry' land *cambu* is by far the most common crop. The rainfall averages 27 inches annually. The tract which lies below the hills is well supplied with roads, but there are no railways or telegraphs in any portion of it. After Kollegāl it is the most sparsely peopled *tāluk* in the District.

Pollāchi Subdivision.—Subdivision of Coimbatore District, Madras, consisting of the *tāluks* of POLLĀCHI, PALLADAM, and UDAMALPET.

Pollāchi Tāluk.—South-west *tāluk* of Coimbatore District, Madras, lying between 10° 15′ and 10° 55′ N. and 76° 49′ and 77° 16′ E., with an area of 710 square miles. The population increased from 183,669 in 1891 to 195,608 in 1901. It contains one town, POLLĀCHI (population, 8,958), the head-quarters,

and 158 villages. The demand for land revenue and cesses in 1903–4 was Rs. 3,04,000. The north of the *tāluk* consists of an undulating plain, but the southern portion is covered by the great Anaimalai Hills and their dense forests. The former faces the Pālghāt Gap in the Western Ghāts, and consequently receives some of the south-west monsoon which is prevented by this range from reaching the east of the District, and so has an early cultivation season. The *tāluk* contains less irrigated land than any other except Kollegāl, but its 'dry' land is usually good and includes some black loam on the extreme east. Nearly half the small extent of *zamīndāri* land in the District lies in this *tāluk*.

Palladam Tāluk.—Central *tāluk* of Coimbatore District, Madras, lying between 10° 47′ and 11° 21′ N. and 77° 1′ and 77° 30′ E., with an area of 741 square miles. Population increased from 270,390 in 1891 to 300,904 in 1901. It contains one town, TIRRUPPŪR (population, 6,056), and 193 villages, including PALLADAM (3,187), the head-quarters. The demand for land revenue and cesses in 1903–4 amounted to Rs. 4,87,000. It is a flat and dreary plain without hills or forests. The only river is the Noyil. The irrigated area is higher than in any other *tāluk* in the District, but nearly all of this is served by wells, with which it is better supplied than any other. There is much black cotton soil in the south and south-west, and the area under cotton is larger than anywhere else in the District. *Cholam* is by far the most widely grown crop, and some tobacco is raised with irrigation from wells. The rainfall is very small, averaging only 20 inches annually.

Udamalpet Tāluk.—South-western *tāluk* of Coimbatore District, Madras, lying between 10° 16′ and 10° 48′ N. and 77° 3′ and 77° 25′ E., with an area of 566 square miles. It contains one town, UDAMALPET (population, 10,503), the head-quarters, and 86 villages. The population rose from 139,430 in 1891 to 150,480 in 1901. The unusually high proportion of 3 per cent. are Muhammadans, who are better educated than in any other *tāluk* in the District except Coimbatore. The demand for land revenue and cesses in 1903–4 amounted to Rs. 2,48,000. The greater part of the *tāluk* is an open plain, but the south contains a large portion of the Anaimalai Hills, and consequently between half and a third of the *tāluk* is covered with forest. It is traversed by the upper waters of the Amarāvati, which irrigate a small area. The rainfall is small, averaging only 22 inches annually. Most of the land is red earth, but there are tracts of black cotton soil, and the area under cotton is large.

Bhavāni River.—A picturesque perennial river of Southern India, rising in the Attapādi Valley in Malabar District, in 11° 14′ N. and 76° 32′ E., and traversing from west to east for 105 miles the *tāluks* of Satyamangalam and Bhavāni in Coimbatore till it falls into the Cauvery near Bhavāni town. The confluence is considered very holy and is frequented by pilgrims. Deriving its supplies principally from the south-west monsoon, the Bhavāni receives its first freshes about the end of May, is at its highest flood from June to August, and thenceforward, with occasional floods in the north-east monsoon, gradually subsides. It is fed by a number of small tributaries from the slopes of the Nīlgiris on the north and the more open country to the south. The most considerable of these is the Moyār, which drains the northern side of the Nīlgiri plateau, and joins the Bhavāni near Kottamangalam. The Bhavāni is crossed by the *ghāt* road and the metre-gauge rack railway to the Nīlgiris at Mettupālaiyam, and by road bridges at Satyamangalam and Bhavāni. Twice recently it has come down in considerable floods: in 1882 great damage was done along its banks, and in 1902 the road bridge at Mettupālaiyam was carried away. Otters are found in it, and it is famous for its mahseer and other fish. It affords the best irrigation in Coimbatore District by the Tādampalli, Arakkankottai, and Kalingarāyan channels, which together water 39,000 acres; and it has given its name to a considerable irrigation project which has been much discussed. This consists in forming a reservoir about 4 miles above Satyamangalam to contain 27,000 million cubic feet of water. Opinion is divided as to how this water should be used; but the project in its present form does not contemplate any extension of irrigation in Coimbatore District, but provides for the water being utilized to supplement the Cauvery irrigation in Tanjore District during September and October. The question has arisen whether a reservoir could not be more advantageously constructed lower down on the Cauvery itself, and this is still under investigation. The forests which protect the head-waters of the Bhavāni are largely owned by private individuals; and unless they are carefully preserved, the effect on the water-supply for irrigation from the river may in time be very serious.

Bhavāni Town.—Head-quarters of the *tāluk* of the same name in Coimbatore District, Madras, situated in 11° 27′ N. and 77° 40′ E., 9 miles north of Erode at the confluence of the Bhavāni and Cauvery rivers. Population (1901), 8,637. It was for a short time at the beginning of last century the

head-quarters of the northern portion of the District, but is now important only as a place of pilgrimage, its sanctity being due to its position at the junction of the two rivers. Both of these are crossed here by fine masonry bridges, as the main road from Madras to Calicut once passed this way. That over the Cauvery was originally built in 1847, but was washed away almost at once, and was reconstructed in 1851. The temple of Sangama Iswara ('the god of the confluence') is well sculptured and is much revered. The old fort is said to have been built by a local chieftain who held it under the kings of Madura. The town contains a large number of Brāhmans and other persons attached to the temple, and is notorious for petty intrigues. Good cotton cloth and carpets are made here; the latter took a first prize at the Madras Exhibition in 1883. The place is said to have once been famous for its dyes.

Coimbatore City (*Koyamuttūr*).—Head-quarters of the District and *tāluk* of the same name, Madras, situated in 11° N. and 76° 58′ E., on the left bank of the Noyil river, on the trunk road from Madras to Calicut, 305 miles from the former town by the Madras Railway. The population in 1872 was 35,310; in 1881, 38,967; in 1891, 46,383; and in 1901, 53,080. It is thus a rapidly growing place, and now ranks tenth among the towns of the Province. About 85 per cent. of the inhabitants are Hindus, Musalmāns numbering 4,129 and Christians 3,869.

During the wars with Haidar Alī and Tipū, Coimbatore, from its position commanding both the Pālghāt Gap leading to Malabar and the Gazalhaṭti Pass to Mysore, was of great strategical importance. It was taken by the British in 1768, but was almost immediately lost again, the Muhammadan commandant treacherously murdering the British officers and handing it over to Haidar. In 1783 it surrendered to Colonel Fullarton, but was shortly afterwards restored to Tipū on the eve of the Treaty of Mangalore. On the reopening of hostilities in 1790 it was retaken by the British. The year after, Tipū sent 2,000 regulars with guns and a considerable body of irregulars to regain it. The siege which followed is the most memorable event in its history. The fort was energetically and successfully defended against the first investing force by Lieutenant Chalmers (afterwards Major-General Sir John Chalmers, K.C.B.) and a young Frenchman named Migot de la Combe, with a small force of 120 topasses and 200 Travancore sepoys, of whom the majority either deserted or proved extremely insubordinate. Tipū then sent a second force of 8,000 regulars

with fourteen guns and a large number of irregulars and cavalry under Kamar-ud-dīn, his most famous general, to avenge the repulse. The garrison had meanwhile been strengthened by reinforcements under Lieutenant Nash, and numbered 700 men. A weak relieving force from Pālghāt was beaten back, and eventually, both Chalmers and Nash being wounded, the place was surrendered (October, 1791) on condition that the garrison should be allowed to retire unmolested to Pālghāt. Tipū, however, violated these terms and sent Chalmers and Nash as prisoners to Seringapatam[1]. A couple of months later the British once more reoccupied Coimbatore, but in 1792 it was again restored to Tipū. In 1799 the British captured it yet again, and were finally confirmed in possession by the fall of Seringapatam in the same year. It was made the capital of the District in 1865.

Coimbatore is now one of the most desirable stations in the Province. Situated 1,300 feet above the sea, in a picturesque position at the mouth of the Bolampatti valley, with the masses of the Nīlgiris and the Anaimalais rising into view on either side, its light annual rainfall of 22 inches and its moderate mean temperature render it at once healthy and pleasant. It is the head-quarters of the ordinary District staff; and also of a Conservator of Forests, a Deputy-Inspector-General of Police, a Superintending Engineer, an Inspector of Schools, and a company of the Nīlgiri Volunteer rifles. One of the seven Central jails of the Presidency is also located here. This was completed in 1868 and has accommodation for 1,340 persons. The convicts are largely employed in weaving, their average annual out-turn being 420,000 yards of cotton fabrics, worth Rs. 92,000, most of which is *khāki* or white drill made for the army or civil departments. The city further contains the cathedral of the Bishop of the French Société des Missions Étrangères, and the head-quarters of the London and the Leipzig Evangelical Lutheran Missions working in the District.

Coimbatore was constituted a municipality in 1866. During the ten years ending 1903 the municipal receipts and expenditure averaged Rs. 50,000. In 1903-4 the income was Rs. 76,000, chiefly derived from the house and land taxes (Rs. 16,500) and tolls (Rs. 12,000); while the expenditure was Rs. 79,000, including conservancy (Rs. 40,000), roads and buildings (Rs. 11,000), and the municipal hospital which contains beds for 40 in-patients (Rs. 8,000). The outlay on

[1] For further details of the two sieges, see Wilson's *History of the Madras Army*, vol. ii, pp. 212-16 (Madras, 1882).

conservancy was abnormal owing to the appearance of plague, and was partly met by a contribution from Government. A water-supply scheme is under investigation, of which the approximate cost is estimated at 3·3 lakhs.

Coimbatore is also the industrial and educational centre of the District. It contains a steam cotton press; a cotton-spinning mill, which has 20,000 spindles, employs nearly 1,000 hands daily, and turns out some 850 tons of yarn; a tannery, which employs 240 persons and produces 200 tons of leather worth 6 lakhs; two steam coffee-curing works, which employ 400 hands and treat coffee worth 12 lakhs, mostly from the Salem Shevaroys; a steam factory, in which manure is made from blood, bones, and oilseeds; some works where coffee is roasted and ground for consumption; and a saltpetre refinery. All these are under European management, but in addition a distillery and a sugar factory owned by natives produce 62,000 gallons of spirit and 440 tons of sugar respectively.

The chief educational institutions are the Coimbatore and St. Michael's Colleges, both of the second grade. The former was established in 1852 by Mr. E. B. Thomas, then Collector of the District, and is managed by a committee of residents. In 1903–4 it had an average attendance of 525 boys, of whom 67 were reading in the F.A. classes. The latter began in 1860 as a small school established by the French Roman Catholic Mission, and was affiliated to the University in 1891. Its average attendance in 1903–4 was 440, and there were 39 boys in the F.A. classes. The College of Agriculture, now located at Saidapet in Chingleput District, will shortly be moved to Coimbatore; and a forest school, for the training of deputy rangers and foresters, has been opened.

Dhārāpuram Town.—Head-quarters of the *tāluk* of the same name in Coimbatore District, Madras, situated in 10° 45′ N. and 77° 32′ E., on the banks of the Amarāvati, 30 miles south of Tiruppūr railway station. Population (1901), 17,178. It is traditionally reputed to have been of importance from very early times, and is historically not uninteresting. The Madura Jesuit mission founded a settlement here in the seventeenth century. In 1667 it was taken from the kings of Madura by Mysore; and in the campaigns with Haidar and Tipū it was a place of strategical value, having been captured by Colonel Wood in 1768, retaken by Haidar in the same year, again occupied by the British in 1783, given up by the Treaty of Mangalore, and taken again in 1790 by General Medows. In

1792 the fort was dismantled. The town then was almost deserted, but was rebuilt after 1799 upon plans drawn up by Mr. Hurdis, the first Collector of the southern part of the District, who made it his head-quarters. A District Court was stationed here for a few years till 1816. The town, which is well built, stands on an open plateau 900 feet above the sea. Seven roads converge at it; it is known for the manufacture of strong and durable carts, and has a fair trade in country produce.

Erode Town.—Head-quarters of the *tāluk* of the same name on the eastern border of Coimbatore District, Madras, situated in 11° 21′ N. and 77° 43′ E., 243 miles from Madras at a junction of the Madras and South Indian Railways, and close to the bank of the Cauvery. Population (1901), 15,529. It seems to have been long an important place. Early in the seventeenth century the Jesuit Fathers established a station here. In Haidar's time it is said to have contained 3,000 houses, which would be equal to a population of 15,000 souls; but in consequence of successive Marāthā, Mysore, and British invasions the town became almost utterly deserted. It was taken from Madura by Mysore troops in 1667, and from Haidar by the British in 1768, only to fall into his hands again at the end of the same year. It was retaken in General Medows's expedition of 1790, but was abandoned on Tipū's advance. It does not appear to have been a place of any real strength. As soon as the peace was signed in 1792 the people returned, and within a year it had 400 houses and a population of over 2,000. It was garrisoned by the Company at first; but the troops were withdrawn in 1807, and in 1877 the old fort was levelled as a famine-relief work.

Erode is a well-built town and is the head-quarters of the divisional officer, the Assistant Superintendent of police, a District Munsif, a stationary sub-magistrate, a *tahsīldār*, and the Public Works department subdivisional officer. It was constituted a municipality in 1871. The municipal receipts and expenditure during the ten years ending 1903 averaged Rs. 18,000. In 1903–4 they were Rs. 23,000, most of the income being derived from the house and land taxes. Surveys and levels for a drainage scheme have been taken. A water-supply scheme has been investigated, but has not been begun owing to want of funds. The antiquities of the town include two ancient temples which contain many inscriptions in Tamil and Grantha characters. Its chief industries are a cotton press and the making of carts. It is also the trade centre of this corner of the District.

Gopichettipālaiyam.—Head-quarters of the Satyamangalam *tāluk* in Coimbatore District, Madras, situated in 11° 27′ N. and 77° 26′ E., 25 miles north-west of Erode railway station. Population (1901), 10,227. It contains the best 'wet' land in the *tāluk*, and is inhabited by well-to-do ryots and traders. It has therefore recently supplanted Satyamangalam as the chief town of the *tāluk*. Corundum has been found here in fair quantities.

Karūr Town.—Head-quarters of the *tāluk* of the same name in Coimbatore District, Madras, situated in 10° 58′ N. and 78° 6′ E., on the South Indian Railway, 48 miles from Trichinopoly, and on the Amarāvati river not far from its junction with the Cauvery. Population (1901), 12,769. The town is called Tiruvānilai or Pasupati ('the place of the sacred cow') in vernacular writings. The name Karūr means 'embryo town,' and is said to have been given because Brahmā began his work of creation here. For the same reason it is often called Brahmapurī in legendary records. It was apparently a place of some importance as far back as the early centuries of the Christian era, for coins of the emperors Augustus, Tiberius, and Claudius were found near by in 1806. Situated near the point where the territories of the rival Chera, Chola, and Pāndya dynasties met, it probably played a part in their ancient struggles. On the dissolution of the Vijayanagar empire in 1565, Karūr fell under the Naiks of Madura; but it was frequently attacked and occupied by the Mysore armies, and towards the end of the seventeenth century it was finally annexed to the latter kingdom and became its most important frontier post. In 1639 the Jesuits established a mission here. In later years the place constantly changed hands. In 1736 Chanda Sāhib besieged it unsuccessfully. In 1760 it was captured by the British, in revenge for the assistance given by Haidar to the French. Orme describes the siege in detail. Karūr was held by them till 1768, when it was retaken by Haidar, whose possession was confirmed by treaty in the following year. In 1783 Colonel Lang took and held the fort for a few months. There is a monument on the south bank of the river to the British troops who fell in this siege. It was a third time captured in 1790 by General Medows, and restored at the peace of 1792. It was garrisoned by the Company as a military station until 1801, and portions of the old fort still remain.

Karūr was formerly the head-quarters of the Sub-Collector. Besides the *tahsīldār*, a District Munsif and a stationary sub-

magistrate are now stationed here. Being on the railway and at the junction of several roads, it possesses a considerable trade. Its chief drawback is its crowded site, which is surrounded entirely by rice-fields and the river. The only industry worth mention is the manufacture of brassware on a small scale. There are, however, two tanneries in the neighbourhood. The principal temple is a considerable edifice of some antiquity, containing numerous inscriptions on stone.

Karūr was constituted a municipality in 1874. During the ten years ending 1903 the annual income and expenditure averaged about Rs. 20,000. In 1903–4 the receipts and expenditure were Rs. 29,000 and 28,000 respectively, the former being chiefly derived from school fees, the house and land taxes, and tolls. It is a station of the Wesleyan Mission, which maintains two industrial schools here, one for boys and the other for girls. A drainage scheme estimated to cost Rs. 95,850 has been framed for this municipality; but its execution has been postponed pending the introduction of a proper water-supply, plans for which are still under preparation.

Kollegāl Town.—Head-quarters of the *tāluk* of the same name in Coimbatore District, Madras, situated in 12° 10′ N. and 77° 7′ E., in the extreme north-west corner of the District. Population (1901), 13,729. It is well-known for its gold-laced cloths and kerchiefs. Some of the silk cloths made here cost as much as Rs. 300 each, or even more, according to the quantity and quality of the gold and silver embroidery, which, in the highest priced cloths, is woven in intricate and elegant designs into the texture of the cloth while still on the loom.

Mettupālaiyam.—Village in the *tāluk* and District of Coimbatore, Madras, situated in 11° 19′ N. and 76° 58′ E., on the banks of the Bhavāni at the foot of the Nīlgiri Hills. Population (1901), 10,223. Being the terminus of the Nīlgiri branch of the Madras Railway and the starting-point of the *ghāt* road and rack railway which lead up those hills, it is a place of some importance and a deputy-*tahsīldār* is stationed here. Owing to its situation, it is notoriously hot and unhealthy. A tannery owned by a native firm employs 60 hands, and turns out annually nearly 85 tons of leather, valued at over Rs. 50,000. There are more than a hundred dolmens in the fields round the place.

Palladam.—Head-quarters of the *tāluk* of the same name in Coimbatore District, Madras, situated in 11° 0′ N. and 77° 17′ E. Population (1901), 1,387. There are large tracts of

black cotton soil in the neighbourhood, and the town has three cotton presses. It also contains the ruins of an old fort.

Perūr.—Village in the *tāluk* and District of Coimbatore, Madras, situated in 10° 58′ N. and 76° 56′ E., 4 miles from Coimbatore city. Population (1901), 1636. It is sometimes called Chidambaram, the prefix *Mel* (western) being added to distinguish it from *Kīl* (eastern) Chidambaram in South Arcot. It contains a remarkable Hindu temple of great sanctity, which enjoys the distinction, shared by few others, that Tipū spared both its buildings and its lands. Fergusson considers[1] the date of the erection to be about the beginning of the eighteenth century, as a figure of a soldier carrying a matchlock is sculptured in the porch in front of the shrine, and his costume and the shape of his weapon are exactly those found in contemporary pictures of the wars of Aurangzeb or the early Marāthās. He thinks that its completion was probably interrupted by the Musalmān usurpation in Mysore. The inner shrine is no doubt much older, as Perūr is a place of ancient sanctity. The modern portion of the temple is richly sculptured, but in a coarse and clumsy fashion in rough material. For this reason the effect is disappointing, though the labour bestowed upon the building must have been immense. The priests declare that the principal portion of the temple was built by Alagādri Naik, brother-in-law of Tirumala Naik of Madura (1623–59). An annual festival held here in the Tamil month of Mārgali (December-January) is very largely attended by the people of this District and of Malabar.

Podanūr.—Village in the *tāluk* and District of Coimbatore, Madras, situated in 10° 58′ N. and 77° 0′ E., 4 miles from Coimbatore city. Population (1901), 6,568. It is the junction of the Nīlgiri branch of the Madras Railway with the main line, and the site of considerable railway workshops. It enjoys a cool and healthy climate. A sugar manufactory has recently been opened.

Pollāchi Town.—Head-quarters of the *tāluk* of the same name in the south-west corner of Coimbatore District, Madras, situated in 10° 39′ N. and 77° 1′ E. Population (1901), 8,958. Standing on the highway from the east to the west coast, it must always have been an important market town. Traces of its early importance were found in 1800, in a hoard of silver coins of the emperors Augustus and Tiberius. It has, however, no industry except agriculture. The divisional officer is stationed here. The hospital at Pollāchi has accommodation

[1] *History of Indian Architecture*, 1876, pp. 370–2.

for thirty-six in-patients and a maternity ward. It was founded in 1858, the building being erected by private subscription, and has an endowment of Rs. 17,700. In the vicinity of the village are a number of interesting dolmens and rude stone circles which are termed by the people 'graves of the dead.' Several of them have been opened, and have been found to be arranged in circles of diameters ranging from 10 to 45 feet, and to contain fragments of human skulls and bones, and occasionally broken pieces of earthenware and a few implements and ornaments. These objects were usually met with at a depth of from 5 to 7 feet below the surface. Three bronze images of male and female figures were found; and that these are of non-Aryan origin is to be inferred from the position of the woman, who is seated at the right side of her husband instead of the left side, as in all Brāhmanical rites.

Satyamangalam.—Till recently the head-quarters of the *tāluk* of the same name in Coimbatore District, Madras, situated in 11° 30′ N. and 77° 15′ E., on the Bhavāni river at the foot of the northern Coimbatore hills. Population (1901), 3,680. Though apparently never strongly fortified, it derived some strategical importance from the fact that it lies near the southern end of the Gazalhatti Pass, which was the ordinary route from Mysore to this District. Under the Naik dynasty of Madura it was the residence of a deputy-governor. In the beginning of the seventeenth century it was the local head-quarters of the Jesuits. It fell into the hands of the Mysore kings in 1653, was held by the British for some time after Colonel Wood's sudden but short occupation of the District in 1768, and was abandoned before Haidar's advance at the end of the same year. A ruined mud fort in the neighbouring Pass was bravely but unsuccessfully defended in this campaign by Lieutenant Andrews, who was killed by the besiegers. The town was occupied by a division under Colonel Floyd during General Medows's campaign in this District in 1790, preparatory to a general advance into Mysore by the Gazalhatti Pass. But Tipū descended the Pass in September of that year, crossed the Bhavāni above Satyamangalam, and fought two engagements with the British on the same day. In the first of these, a cavalry fight, the British were completely successful, and in the second, an artillery duel, they held their ground though they suffered severely. It was, however, decided not to risk a general encounter, and the place was abandoned by Colonel Floyd on the following morning. Satyamangalam is now the head-quarters of a deputy-*tahsīldār* and stationary sub-

magistrate. It is an ordinary market town without special features.

Sivasamudram ('Sea of Siva').—An island on the Cauvery river, in the Kollegāl *tāluk* of Coimbatore District, Madras, situated in 12° 16′ N. and 77° 13′ E. It has given its name to the famous Falls of the CAUVERY, which lie on either side of it and which are referred to in the account of the river. The stream on both sides is very rapid and is fordable in only one place, and that with difficulty, even in the hot season. The island is thus a place of great natural strength and was consequently in ancient days the site of a considerable town. Tradition ascribes the original foundation to a petty king from Malabar in the sixteenth century. His son and grandson held it after him, and it was then deserted for some years until reoccupied by a Mysore chieftain called Ganga Rāya. Some picturesque stories were gleaned about him and his successors by Buchanan[1] when he visited the place in 1800. They seem to have greatly extended the fortifications, remains of three lines of which still exist, to have built the temples and palaces with the ruins of which the island is strewn, and to have bridged the two arms of the river which surround it. The place remained in their family for only three generations, and they were then forcibly dispossessed by another local chieftain. The town shortly afterwards fell into ruins. In 1800 it was inhabited only by two Muhammadan hermits, other people being afraid of the demons and tigers which were declared to haunt it. In 1818 it was granted to a native gentleman named Rāmaswāma Mudaliyār, who cleared away the jungle with which it had become overgrown and rebuilt the old bridges leading to it. Two temples, which are elaborately sculptured and contain inscriptions, still stand on the island. There is also the tomb of Pīr Walī, a Muhammadan saint, which is much reverenced by Musalmāns and is the scene of a large annual festival.

Tiruppūr.—Town in the Palladam *tāluk* of Coimbatore District, Madras, situated in 11° 6′ N. and 77° 22′ E., on the main line of the Madras Railway, 30 miles from Coimbatore. Population (1901), 6,056, of whom over one-fifth are Muhammadans. It is a place of some commercial activity, and, being surrounded by cotton soil, contains two cotton presses. A few palampores and chintzes are made; a cattle fair takes place in connexion with the annual car festival; and the Government pony shows to encourage pony-breeding were until recently held here.

[1] *Mysore, Canara, and Malabar*, vol. i, p. 406 ff. (Madras reprint, 1870).

Udamalpet Town.—Head-quarters of the *tāluk* of the same name in Coimbatore District, Madras, situated in 10° 36′ N. and 77° 15′ E. Population (1901), 10,503, of whom about one-eighth are Muhammadans. It is an important centre of trade in cotton, grain, and cloth; and its chief inhabitants belong to commercial classes, such as Komatis, Nāttukottai Chettis, and Muhammadans. Its blacksmiths are well-known for their skill. A District Munsif is stationed here.

SOUTH ARCOT DISTRICT

Boundaries, configuration, and hill and river systems.

Arcot, South, District (*Arkāt*).—A maritime District in the south-east of the Madras Presidency, lying between 11° 11′ and 12° 35′ N. and 78° 38′ and 80° 0′ E., with an area of 5,217 square miles. It gets its name from the fact that it was the southern portion of the Mughal *Sūbah* of Arcot, which word is supposed to be derived from *āru-kādu*, 'six forests,' the province containing six forests in which six *rishis* are fabled to have dwelt. It is bounded on the east by the Bay of Bengal; on the south by Tanjore and Trichinopoly, from which Districts it is separated by the COLEROON and VELLĀR respectively; on the west by Salem; and on the north by North Arcot and Chingleput. Within it lies the French Settlement of PONDICHERRY. On the west rise the KALRĀYAN HILLS, a group between 3,000 and 4,000 feet high connected with the SHEVAROYS, and farther to the north-west is part of the JAVĀDI HILLS, the main portion of which is in North Arcot. Between these two groups the Chengam Pass gives access to Salem District, and the PONNAIYĀR runs down from the Mysore plateau and crosses the District on its way to the Bay of Bengal. In these western and north-western parts small rocky hills appear in isolated groups, the most remarkable being TIRUVANNĀMALAI (2,668 feet), a peak with long sloping sides for the most part covered with jungle and accessible only on foot; but otherwise the whole District is a flat plain, with a few sand ridges near the coast, and near Pondicherry and CUDDALORE, the head-quarters, some low plateaux of lateritic formation.

The rivers of the District all flow from west to east into the Bay of Bengal. The chief of them is the Ponnaiyār, already mentioned, which flows for 75 miles across it. It runs in a sandy bed with low banks, receives no tributaries of any importance within the District, and finally falls into the sea about 3 miles north of Cuddalore. North of this is the Gingee river, known also as the Varāhanadī, which rises in the Tindivanam *tāluk* and flows into the sea near Pondicherry. South of it is the Gadilam, 59 miles in length, which has its sources in the Kallakurchi *tāluk*, is principally supplied by the Malattār, a natural channel which connects it with the Ponnaiyār, and runs into the sea past the ruined bastions of FORT ST. DAVID, a mile north of Cuddalore and close to the

mouth of the Ponnaiyār. In the extreme south the Vellār forms the boundary between South Arcot and Trichinopoly for some distance and then strikes into the former District. It flows for 82 miles within the District and has a tributary of some importance, the Manimuktānadī, which drains the Vriddhāchalam *tāluk*. The Vellār enters the sea at PORTO NOVO. Its banks are high, and it is affected by the tide for 7 or 8 miles above its mouth. The southernmost of all the rivers, the Coleroon, branches from the CAUVERY 11 miles above Trichinopoly, separates South Arcot from Tanjore for 36 miles of its length, and falls into the sea 3 or 4 miles south of Porto Novo. These last two rivers are navigable for a short distance from their mouths by small boats; they were once connected by a shallow canal, but this is now to a great extent silted up.

Geology. The greater part of the District, including its central and north-western portions, is composed of Archaean gneisses and schists, with a large development of very massive gneissose granite, with frequent large included blocks of more hornblendic rocks and bands of hypersthene granulite (charnockite). To the east and south-east rocks of Cretaceous age appear in detached areas round Pondicherry and VRIDDHĀCHALAM. The Cuddalore sandstone of Upper Tertiary or younger age is about 100 feet thick, overlying to the east and unconformably each of the Cretaceous patches. It consists of unfossiliferous, ferruginous, soft sandstones and grits. They are covered by a surface of low-level, ferruginous, and often conglomeratic laterite. River, deltaic, and coast alluvium and blown sand occupy all the low-lying areas.

Botany. The flora of the hills is almost entirely of the drier deciduous type, characterized by the abundance of sandal-wood, *Zizyphus*, and *Terminalia*, and, more rarely, teak and blackwood. Elsewhere distance from the sea and the absence or presence of cultivation are the determining factors in the nature of the plant growth. In the plain between the hills and the sea occurs the mixture of deciduous and evergreen flora usual in the southern Districts, while along the coast are the brackish-water forms in the salt marshes and the seaside flora along the beach. Some of these last are of great practical use in binding the sand, which would otherwise encroach upon cultivation. *Ipomoea biloba*, the seaside convolvulus, sometimes called the 'goat's foot creeper,' and *Spinifex squarrosus*, a thorny grass, the spiked circular flower-heads of which become detached when the seed is ripening and roll along at a great pace before the wind, are conspicuous in this respect.

Fauna.

The hills contain a few leopards, bears, *sāmbar*, spotted deer, and wild hog, and the smaller game usual to such localities. In the low country there are partridge, hares, quail, some peafowl and jungle-fowl, rock pigeons, here and there a florican, numerous teal and wild duck, and an unusually plentiful supply of snipe. The principal kinds of sea-fish are the pomfret, the sole, the seer, the whiting, the *rubāl*, and the *vālai* (a species of *Silurus*).

Climate and temperature.

The climate of South Arcot is fairly dry and on the whole healthy, though malaria is endemic in parts of the Kallakurchi, Vriddhāchalam, and Tiruvannāmai *tāluks*. Epidemic cholera is a frequent visitor, and there is some elephantiasis along the coast. The temperature is moderate near the sea, but rises slightly farther inland. The mean at Cuddalore is 82°, the average maximum being 91° and the average mimimum 74°.

Rainfall.

The District depends upon both monsoons for its rain. The average annual fall during the years 1870–99 was 43 inches, the minimum being 25 inches in 1876, the year before the great famine, and the maximum nearly 72 inches in 1884, the year of the high floods referred to below. As in other east coast Districts, the fall is highest near the coast (52 inches), lighter in the central *tāluks* (45 inches), and smallest (39 inches) in the area farther inland, the variation occurring chiefly in the supply received from the north-east monsoon.

There were high floods in the Gadilam in 1864, in the Vellār in 1871, in the Ponnaiyār in 1874, and in the Coleroon in 1882. But the worst floods on record were those of 1884. During the four days from November 4 to 8 of that year no less than 32 inches of rain fell in Cuddalore, and the Gadilam overflowed into both the Old and New Town. In December of the same year, further heavy rain occurred, the fall on the 19th alone being 15 inches. The Gadilam and Ponnaiyār both came down in flood, and their streams joined and for twenty-four hours rushed through Cuddalore New Town to the sea. Both the Gadilam and the Ponnaiyār bridges near the town were partly swept away, the railway and telegraph lines were breached, several lives were lost, and it took ten or twelve years to recover from the damage done to irrigation works, roads, and bridges.

Like the rest of the shore of the Bay of Bengal, South Arcot is notorious for severe storms, and perhaps no coast in the world of equal length has proved so disastrous to the British navy as that of this District. The hurricane of April 13, 1749, wrecked three vessels between Cuddalore and Fort St. David.

One of them was a sixty-gun ship and another was Admiral Boscawen's flagship, 74 guns. With the latter 750 men perished. A cyclone in December, 1760, scattered the blockading fleet in the Pondicherry roads, when three King's ships were stranded and three more foundered with 1,100 Europeans on board. During a hurricane in October, 1763, three King's ships were dismasted. There were also violent storms on the coast in 1752, 1784, 1795, 1808, 1820, 1831, 1840, 1842, 1853, 1871, and 1874. In the storm of 1853 seven vessels were wrecked between Cuddalore and Porto Novo, besides native craft.

History. The early history of the District probably resembled generally that of the rest of the CHOLA country. It seems to have been under the Chola sovereigns from the earliest period of their supremacy, though it is possible that portions of the north fell into the hands of the Pallavas of Kānchi or Conjeeveram. From the thirteenth century it appears to have followed the fortunes of Tanjore. Towards the close of the fourteenth century inscriptions in the District mention four chiefs calling themselves Udaiyār. One of them seems to have been conquered by the Vijayanagar king Harihara II, an inscription in whose name, dated in 1382, has been found. About 1646 the District passed under the Bijāpur Sultāns, from whom, thirty years later, it was wrested by Sivajī, the founder of the Marāthā power in India. With the fall of Gingee, in 1698, the imperial Mughals succeeded the Marāthās as masters of the country. The British connexion dates from 1674, when its Bijāpur ruler invited the Governor of Fort St. George to establish factories in his territories. Negotiations were immediately opened, but no active steps were taken till 1682, when a settlement was made at Cuddalore. This proving unfortunate, another was established at Kūnimedu, a village about 12 miles north of Pondicherry. In 1683 the Cuddalore factory was reoccupied, and a fresh station was also founded at Porto Novo. The latter, however, was closed in 1687, the year in which the deed of grant for all the three factories was received from Harji Rājā, the Marāthā governor of Gingee. In 1690 Fort St. David, about a mile north of Cuddalore, with all the country 'within the randome shott of a great gun' round about it, was purchased from the Marāthās, and the effects at Kūnimedu and the other factories were removed to it. The villages so acquired are known to this day as the 'cannon-ball villages.' On the capture of Fort St. George in 1746 by the French Admiral La Bourdonnais, Fort St. David became, for six years,

the head-quarters of the Company on the Coromandel Coast. During the Carnatic Wars of 1749-61, when the English and the French first interposed in the internal politics of India, South Arcot played an important part, Cuddalore, Fort St. David, Gingee, Tyāga Durgam, Vriddhāchalam, Tiruvannāmalai and other places being the objects of repeated attacks and counter-attacks. In 1758 Cuddalore and Fort St. David were taken by the French, and the fortifications of the latter were almost levelled to the ground. In 1760, however, Eyre Coote, after his great victory over the French under Lally at Wandiwāsh, retook Cuddalore, and the French abandoned Fort St. David on his advance. In 1767 Haidar Alī, who had by this time usurped sovereign authority in Mysore, entered the Carnatic by the Chengam Pass in the north-west corner of the District, but he was defeated by Colonel Joseph Smith both there and again at Tiruvannāmalai. In 1780 he again entered the District by the same route. Some fighting took place at Cuddalore, Tyāga Durgam, and Chidambaram, but the most decisive battle in the campaign occurred at Porto Novo. Haidar was signally defeated by Sir Eyre Coote, and the victory did much to save the entire Presidency. In 1782, however, Cuddalore was again taken by the French, and on the cessation of hostilities in 1784 was again restored to the British. In 1790 Tipū, the son of Haidar, made a demonstration before Tyāga Durgam and took Tiruvannāmalai and Perumukkal, about 5 miles to the east of Tindivanam, treating the inhabitants of the former with great cruelty. But his farther progress was checked by the news of Lord Cornwallis's advance into Mysore, to meet which he promptly quitted the Carnatic.

The District passed under English management for the first time in 1781, when, during the war with Haidar, the Nawāb of Arcot assigned the revenues of the Carnatic to the English. In 1801, with the rest of the Carnatic, it was ceded in full sovereignty to the British by the Nawāb, Azīm-ud-daula. On the outbreak of the war between England and France in 1792, Pondicherry was taken without difficulty, but was finally restored to the French in 1816.

Archaeology. Prehistoric dolmens are found in parts of the Tiruvannāmalai and Tirukkoyilūr *tāluks*. They are chambers formed of six granite slabs, with a circular hole some 18 inches in diameter on the eastern side; and some of them are as large as 6 feet by 8 feet, and 7 feet high. They contain pottery, bones, and implements, and the local legend explains that they were the homes of a race of dwarf *rishis*, 60,000 strong. In the middle

of one large group of them at Devanūr, near TIRUKKOYILŪR, stands a huge slab of granite 14 feet high, 8 feet wide, and 6 inches thick, which is locally known as the *kacheri kal* or 'stone of audience.' Other antiquities are the temples at Chidambaram, Tiruvannāmalai, Vriddhāchalam, and SRĪMUSHNAM. Military architecture is represented by the famous stronghold of Gingee and Tyāga Durgam, a rock-fortress which commands the Atūr Pass into Salem District.

South Arcot contains 2,745 villages and ten towns, but only 7 per cent. of the people live in the towns and three-fifths of them reside in medium-sized villages of from 500 to 2,000 inhabitants. The District is divided into eight *tāluks*, which are named after their respective head-quarters. Particulars of them, according to the Census of 1901, are appended :— The people.

Tāluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Tindivanam .	816	1	473	338,973	415	+ 7·3	22,246
Tiruvannāmalai.	1,009	1	400	244,085	242	+18·8	13,518
Villupuram .	509	1	300	313,607	616	+ 3·9	22,895
Tirukkoyilūr .	584	1	350	285,068	488	+ 9·2	17,609
Kallakurchi .	873	..	367	269,377	309	+12·5	11,991
Cuddalore. .	448	3	224	361,776	808	+ 7·3	31,755
Chidambaram .	402	2	336	294,868	734	+ 4·5	29,129
Vriddhāchalam .	576	1	295	242,140	420	+10·2	17,603
District total	5,217	10	2,745	2,349,894	450	+ 8.6	166,746

The population in 1871 was 1,755,817 ; in 1881, 1,814,738 ; in 1891, 2,162,851 ; and in 1901, 2,349,894. The chief towns are the three municipalities of CUDDALORE (population, 52,216), CHIDAMBARAM (19,909), and TIRUVANNĀMALAI (17,069). South Arcot is below the average in area ; but in the number of its inhabitants and the density of its population, it stands third and fifth respectively among the Districts of the Presidency. Despite the fact that it was severely affected by the great famine of 1876, and despite the constant stream of emigrants who have left it to cross the seas, especially to the Straits and Burma, the population has increased by 34 per cent. since 1871, the corresponding increase for the Presidency as a whole being 22 per cent. During the decade 1891–1901 the sparsely-peopled areas of Tiruvannāmalai, Kallakurchi, and Vriddhāchalam exhibited a marked advance. About 94 per

cent. of the population are Hindus, the remainder being about equally divided between Musalmāns and Christians. The District also contains (chiefly in the Tindivanam *tāluk*) 5,896 Jains, which is a larger number than in any other District of the Presidency except South Kanara and North Arcot. Tamil is everywhere the vernacular.

Their castes.

Like most of the southern Districts, South Arcot contains a sprinkling of Telugu castes, such as Kāpu and Kamma (cultivators), Balijā and Komati (traders), Odde (earth-workers), and Chakkiliyans (cobblers); but the great mass of the people are Tamils. More than a fourth of all the Pallis and Paraiyans in the Presidency are found in South Arcot; they number respectively 728,000 and 556,000, and together constitute more than half the population of the District. Next in numbers come the Vellālas (146,000), the great Tamil cultivating caste, and the Idaiyans (104,000), who are shepherds. A somewhat curious community are the Malaiyālis of the Javādi and Kalrāyan Hills. They appear to be Tamils who took refuge there at some remote period, and whose customs have been affected by their environment. The jungle tribe of the Irulas is found in places, but some of its members have settled down in the villages as coolies.

Their occupations.

The population of South Arcot depends more exclusively upon cultivation and the tending of flocks and herds than that of any other area in the Province except the Agencies of the three northern Districts, 82 per cent. of the inhabitants subsisting by these callings. It is also noticeable that of the landholders and tenants more than 99 per cent. (or 56 per cent. of the entire population) returned themselves in 1901 as actual cultivators as distinguished from mere holders of land, and that there were ninety-two landholders to every eight tenants. Seeing that Pallis and Paraiyans form more than half of the population, the inference appears to be that these castes are rising from their former position of agricultural serfs to be holders of land of their own.

Christian missions.

Of the Christians of the District, 92 per cent. are Roman Catholics. The Catholic Mission, an offshoot of the famous Madura Mission, is the oldest. After working for several years in the Gingee country, its members built the first Roman Catholic Church at Cuddalore Old Town in 1692. They underwent many calamities during the wars of the Carnatic between 1749 and 1761. The next oldest mission is the Danish Evangelical Lutheran, established in 1737. This also suffered greatly during the wars between the English, the

French, and Mysore. It suspended its work in 1807, but has been since revived by the Society for the Propagation of the Gospel. This body began work in 1825, the Leipzig Evangelical Lutheran Mission in 1851, the Danish Mission in 1861, the Society of the Reformed Church of America in 1868, and the Highways and Hedges Mission in 1882.

General agricultural conditions.

Two-thirds of the land of South Arcot is of the red ferruginous class, and nearly all the remainder is black cotton soil. Sandy earth occurs only in comparatively small areas near the coast, and is useful for little but growing cashew and casuarina trees. The red class predominates everywhere except in the southern *tāluks* of Chidambaram and Vriddhāchalam, where black cotton soil (which is esteemed the better of the two) covers about 70 per cent. of the arable area. The red soil is best for 'dry' crops, and the black, owing to its retentiveness of moisture, for 'wet' cultivation. Vriddhāchalam contains good soil, but has less tank or channel irrigation than any other *tāluk*, and, as water is not found near the surface, wells are scarce. The Kallakurchi, Tiruvannāmalai, and Tindivanam *tāluks* on the west and north, which are mainly covered with the poorer red soil, possess a large number of rain-fed tanks and irrigation wells. Tindivanam contains about one-fourth of the tanks and wells in the District, and the number of wells in the other two *tāluks* more than doubled in the decade ending 1900–1. In the centre of the District, Tirukkoyilūr depends chiefly upon canals and tanks, and Villupuram upon tanks and wells. Nearly all the irrigation from the river channels is in the two southern *tāluks* of Cuddalore and Chidambaram.

The busiest sowing months on 'dry' land, where light showers are enough to start a crop, are from July to October, and 'wet' land is chiefly cultivated between September and November.

Chief agricultural statistics and principal crops.

The 5,217 square miles of which the District consists are nearly all *ryotwāri*, the *zamīndāri* and 'whole *inām*' lands covering only 349 square miles. The area for which particulars are available is 4,885 square miles, which in 1903–4 was distributed among the eight *tāluks* as shown on the next page.

The principal food-grains are rice, *cambu* (*Pennisetum typhoideum*), *varagu* (*Paspalum scrobiculatum*), and *rāgi* (*Eleusine coracana*), the areas under which in 1903–4 were 907, 475, 414, and 215 square miles respectively, or 31, 16, 14, and 7 per cent. respectively of the total area cropped. Rice is grown extensively in all the *tāluks*, but particularly in Chidambaram, which

contains one-fourth of the area under it within the District. Elsewhere *cambu*, *varagu*, and *rāgi* are the chief staples. Fruit trees and vegetables occupy a considerable area in the Cuddalore, Tindivanam, Villupuram, and Chidambaram *tāluks*, and in the last of these a large extent is cultivated with vegetables. Ground-nut (*Arachis hypogaea*) is by far the most

Tāluk.	Area shown in accounts.	Forests.	Cultivable waste.	Cultivated.	Irrigated.
Tindivanam	817	49	31	500	130
Tiruvannāmalai	922	312	82	379	78
Villupuram	506	25	23	351	109
Tirukkoyilūr	573	76	28	336	93
Kallakurchi	650	91	96	322	75
Cuddalore	437	33	23	305	76
Chidambaram	402	13	11	306	188
Vriddhāchalam	578	55	23	346	43
District total	4,885	654	317	2,845	792

important industrial crop. More than two-thirds of the whole area under it in the Presidency is found in this District, and it occupies as much as 20 per cent. of the net area cropped. It is grown principally in Tindivanam, Villupuram, Tirukkoyilūr, and Cuddalore, and is exported to France from the ports of Cuddalore and Pondicherry. Gingelly is grown all over the District, but chiefly in Vriddhāchalam, Villupuram, and Cuddalore; and indigo still covers considerable areas in the two latter of these *tāluks* and in Tindivanam and Tirukkoyilūr.

Improvements in agricultural practice.

The extension of the area of holdings has amounted to about 28 per cent. during the last thirty years, but considerable tracts in the Tiruvannāmalai and Kallakurchi *tāluks* are still unoccupied. Little has been done to improve the quality of the crops grown, except in the case of ground-nut. The cultivation of this fell off considerably some years ago owing to the deterioration of the local seed, but the recent introduction of fresh seed from Mauritius improved the standard and resulted in a great extension of the area under it. The cultivation of indigo has of late declined owing to the competition of the German synthetic dye. During the sixteen years ending 1904 more than 3 lakhs has been advanced under the Land Improvement Loans Act, chiefly for the sinking and repairing of wells in Tiruvannāmalai and Kallakurchi, where the cultivators have largely availed themselves of the favourable terms introduced to encourage well-sinking.

Cattle and sheep.

The indigenous cattle are of no particular breed and are not

remarkable. The western *tāluks*, with their large areas of waste land and forest, are used as a grazing-ground for the cattle and sheep of Tanjore and other neighbouring areas. A very large cattle fair is held at Tiruvannāmalai during the annual Kārtigai festival, and animals are brought there in large numbers from Mysore and other places. Two kinds of sheep are bred: the Kurumba or woolly variety and the Semmeri or brown, hairy breed. The former is chiefly reared for its wool and the latter for its flesh. Goats are valued for their skins, but their numbers have recently decreased, owing perhaps to the closing to them of the 'reserved' forests. Working cattle are fed on rice-straw and *cambu* and *rāgi* stalks. The cultivator is well aware of the value of the manure of all these animals, and they are commonly penned in the fields at night.

Except in Tiruvannāmalai there is considerable irrigation in all the *tāluks*; and the District as a whole is one of the best-watered areas in the Presidency, as much as 792 square miles, or 32 per cent., of the total area of *ryotwāri* and 'minor *inām*' land under cultivation having been irrigated in 1903-4. There are, altogether, 87 dams, 205 river channels, 197 spring channels, and 3,243 tanks, besides 100,720 wells. Next to North Arcot, the District contains the largest number of wells in the Presidency. Of the total irrigated area 487 square miles are supplied from tanks, 167 from Government canals, and 112 from wells. The best-watered *tāluk* is Chidambaram, which is served by the systems of channels depending on the Lower Anicut on the Coleroon and the Shatiatope dam across the Vellār. The Vīrānam tank under the Lower Anicut is the largest reservoir in the whole of the Presidency. The irrigation system next in importance after these two takes off from the dam across the Ponnaiyār at Tirukkoyilūr, and to this most of the fertility of the Tirukkoyilūr and Villupuram *tāluks* is due. The areas watered by these three important systems in 1903-4 were respectively 85,000, 34,000, and 28,000 acres. There are also three dams across the Gadilam and one at Pelāndorai on the Vellār, but they are of less value. The former supplement irrigation in the Cuddalore *tāluk*, and the last supplies parts of the Vriddhāchalam and Chidambaram *tāluks*. The numerous tanks (artificial reservoirs) form the chief source of irrigation; and, though comparatively unimportant individually, they supply nearly half the 'wet' area in the District, an extent even larger than that fed by the channels. Most of them are small affairs under the control of the Revenue department, but in the aggregate about Rs. 50,000 is annually spent upon their up-keep.

Irrigation.

Forests. The forests of South Arcot are not at present important as timber-producing areas, as they had been completely ruined before conservation began, but they have capabilities. As the figures already given show, nearly half the total area lies in the Tiruvannāmalai *tāluk*. These are largely the forests on the spur of the Javādis called the Tenmalais, which runs down into the District. The next largest area is in Kallakurchi. The forest on these low hills resembles other growth of the same elevation, while elsewhere are found sea-shore casuarina plantations and swamps of the mangrove-like *Avicennias*. There are no areas of waste land that can be called real forest, and for the most part more or less permanent cultivation marches with the limits of the Reserves. The total includes about 14 per cent. of the District area; and nearly three-tenths of it consist of the hill forests already referred to, and a large block of 76 square miles of broken ground on the banks of the Ponnaiyār where it emerges from Salem District. The remainder is divided into 144 blocks scattered all over the District, consisting mainly of the poorest and most open scrub.

The forests are principally used at present for grazing, and are annually resorted to by about 139,000 cattle and 149,000 sheep. Goats used to overrun the Reserves completely, but their numbers have been considerably reduced in recent years. A limited amount of firewood and of very small and inferior timber is consumed, and a large quantity of leaves for manure. Minor products are collected to the value of Rs. 17,600.

The hill forests contain the better species of timber trees usually found in this part of the Presidency: namely, teak, rosewood, *vengai* (*Pterocarpus Marsupium*), *Terminalia tomentosa*, *Hardwickia binata*, and *Anogeissus latifolia*. In a limited area on the small plateau of the Tenmalais sandalwood is very common, and will be workable again in a few years.

Besides the 'reserved' forest, a notable stretch of forest land in the west consists of the eastern part of the Kalrāyan Hills, reaching an average height of 2,500 feet. With the exception of a small area of outlying slopes on the north and east, the whole of this tract, or an area of about 200 square miles, is *jāgīr* land and under no control at all. It drains to the north into the Ponnaiyār and south-east into the Vellār, and forms an important source of water-supply for the neighbouring plains; but it is very much degraded by *punalkādu* (shifting cultivation and burning) and general fires, and is gradually getting worse.

Minerals. The District is not specially noted for any mines or minerals. The iron ores of the Kallakurchi, Tiruvannāmalai, and Tiruk-

koyilūr *tāluks* attracted considerable attention at the beginning of last century. In 1830 Mr. Heath of the Madras Civil Service succeeded in establishing the Porto Novo Iron Company, the object of which was to manufacture bar iron from these ores. It erected extensive works at Porto Novo and later at Tiruvannāmalai, but the enterprise failed after a protracted trial of many years and the company was finally wound up in 1867. The chief trouble was the scarcity of fuel. Other drawbacks were technical difficulties in producing iron free from flaws. The melancholy history of the enterprise is set out in detail in the *Gazetteer* of South Arcot.

Fine-grained sandstones are found in Vriddhāchalam, and blue limestones containing fossil shells in the Tindivanam *tāluk*. The southern bank of the Gadilam river near PANRUTI is noted for its plastic clay, and the hills of Gangavaram, Gingee, and Tyāga Durgam for very handsome granitoids susceptible of a high polish. In and near Tirukkoyilūr and Tiruvannāmalai, and in Tiruvakkarai in the Villupuram *tāluk*, excellent granite is quarried, which is utilized by the Nāttukottai Chettis in the repairs they are carrying out in the temples at Chidambaram, Tiruvannāmalai, Tiruvennanallūr, and other places.

Arts and manufactures.

Indigenous arts or manufactures are of no particular importance; but the steam sugar factories at NELLIKUPPAM and Tiruvennanallūr and the distillery at the former place belonging to the East India Distilleries and Sugar Factories Company (capital £400,000) provide employment on an average for 1,050 hands. Indigo, salt, jaggery (coarse sugar), pottery, oils, and cotton fabrics are also largely manufactured. In 1901 there were 567 indigo-vats in the District, and in the manufacturing season these provided employment for about 4,800 persons. But, owing to the competition of the artificial dye, this industry is on the decline. It is hoped in some quarters that the excellence of the natural indigo and the solidity it gives to the cloth may perhaps re-establish it in the European market, if only the primitive methods for extracting the dye can be replaced by an improved and cheaper process. In the coast *tāluks* of Tindivanam and Cuddalore, salt is extensively manufactured in Government salt-pans; jaggery is made at several places; and the revival in recent years of the cultivation of ground-nuts has given a great stimulus to the manufacture of oil, which is chiefly extracted from ground-nuts and gingelly seeds (*Sesamum indicum*). In Panruti fine pottery and excellent earthen toys are made. The weaving of pure silk is carried on in the Chidambaram *tāluk*. Weaving in cotton mixed

with silk is practised in a number of villages round Bhuvanagiri, Chidambaram, and Mannārgudi in the Chidambaram *tāluk*, and at Panruti, Kurinjippādi, and Chennappanāyakkanpālaiyam in the Cuddalore *tāluk*. The *kailis* made in these villages are exported to the Straits Settlements, and the other fabrics are used locally and also exported to Mysore, North Arcot, and Chingleput. In the Tiruvannāmalai, Vriddhāchalam, and Kallakurchi *tāluks*, coarse woollen blankets are made by the Kurumba caste.

Commerce. South Arcot is a maritime District and has two ports, Cuddalore and Porto Novo. The former is far the more important, almost the whole sea-borne trade of the District being carried on through it. The total value of the imports and exports by sea in 1903–4 was 20 lakhs and 137 lakhs respectively. The chief exports are ground-nuts, oil-cake, cotton piece-goods, skins, rice, ground-nut oil, fresh vegetables, turmeric, tobacco and cigars, chillies, coriander, and castor. Indigo was exported in large quantities until recently, but now, owing to low prices and especially to the continued fall in the foreign market, only a nominal trade in it continues with Europe. The District does the largest trade in ground-nuts in the Presidency. France is its most valuable customer, taking as much as 60 lakhs in 1903–4 out of a total export valued at 78 lakhs. Ground-nuts are also sent to the United Kingdom, Germany, and Austria. Ground-nut oil and oil-cake, cotton piece-goods (especially those known as *kailis*), and skins are chiefly exported to the Straits Settlements. Rice is sent mainly to Ceylon. The principal imports direct into the District by sea are areca-nut from the Straits Settlements and palmyra timber from Ceylon for housebuilding purposes. Except in articles which are collected for export by sea, the inland trade of the District is small. The chief exports by land are sugar from the factories at Nellikuppam and Tiruvennanallūr, salt from the Merkānam and Cuddalore factories, jaggery, rice, indigo, and woollen blankets. The chief imports are cattle from Mysore and other parts, fruit and vegetables from Salem and North Arcot, and many foreign-made articles from Madras. Cuddalore and Panruti are the chief centres of general trade. Pondicherry, though situated in French territory, is, for purposes of trade, practically part of the District, and the native merchants there do a very large portion of its business. The chief trading castes are the Chettis of different classes. The Nāttukottai subdivision of this caste are the chief money-lenders. Most of the internal trade is carried on at weekly

markets, the largest of which are those at Panruti and Tirukkoyilūr, and at the fairs held during the religious festivals at Tiruvannāmalai, Vriddhāchalam, Chidambaram, Mailam, and other places.

The metre-gauge South Indian Railway from Madras to Tuticorin enters the District at Olakkūr and runs across the *tāluks* of Tindivanam, Villupuram, Cuddalore, and Chidambaram for a distance of 88 miles, passing through the ports of Cuddalore and Porto Novo. A branch from Villupuram, 24 miles in length, which was opened in 1879, communicates with the French Settlement of Pondicherry. The line from Villupuram to Dharmavaram in Anantapur District, constructed in 1892, passes through the Tirukkoyilūr and Tiruvannāmalai *tāluks* for a distance of 52 miles, opening up a tract of country which was formerly liable to scarcity of food-stuffs. The only *tāluks* in the District which are not served by any railway are Kallakurchi and Vriddhāchalam; but the construction of the Trichinopoly-Tirukkoyilūr chord line, now under contemplation, will remove this want and place the District in closer communication with the fertile delta of the Cauvery and other food-producing tracts. This new line will cross diagonally the rough quadrilateral of about 100 miles square which is bounded by the towns of Jalārpet, Cuddalore, Tanjore, and Erode, will be 96 miles in length, and will effect a saving of 37 miles in the present route between Trichinopoly and the north. If, as has been suggested, it is continued northwards to Arkonam and constructed on the standard gauge, it would connect the District directly with the broad-gauge systems in the north of the Province. (Railways and roads.)

With the exception of the northern half of Kallakurchi and the western half of the Vriddhāchalam *tāluk*, the District is well provided with roads. The total length is 1,218 miles, of which 901 are metalled and 317 are unmetalled. Eleven miles of the former and 66 miles of the latter are maintained by the Public Works department, and the rest are in charge of the local boards. There are avenues of trees along 1,080 miles. The coasting steamers of the British India Steam Navigation Company touch periodically at Cuddalore.

Famine. South Arcot is not frequently exposed to famine, as it contains large irrigation works and ample means of external communication; but scarcity is often felt when there is a general failure of food-crops due to deficiency in the local rains, and high prices caused by distress elsewhere naturally react upon the District.

The year 1806-7 was a disastrous season, and the distress which occurred necessitated the opening of relief works and the remission of revenue amounting to 6¼ lakhs. There was distress in 1823-5; and in 1833-4, the year of the Guntūr famine, the prices of grain doubled, 18,000 persons were employed on relief works, and large remissions were again necessary. In the famine of 1866 relief works were also opened in this District, and prices continued high till 1868. The drought in 1873-4 caused the loss of much of the 'dry' crops. In 1876-8, the years of the great famine, South Arcot was more severely affected than ever before or since; relief works were opened, and the number of persons relieved at the height of the distress (September, 1877) was as large as 83,000, or nearly 6 per cent. of the total population. The prices of grain rose to a level which was unprecedented, and on Christmas Day, 1876, the distressed people of Cuddalore plundered the bazars and caused a serious riot. The total amount spent on gratuitous relief and on relief works was 9¼ lakhs. During the decade ending with 1900-1 there was no famine in the District; but failure of local rains in 1891-2 and 1898-9 created distress in parts of the Kallakurchi, Tirukkoyilūr, Tindivanam, Cuddalore, and Chidambaram *tāluks*.

District subdivisions and staff.

For general administrative purposes, the District is divided into four subdivisions, one of the officers in charge of which is usually a member of the Indian Civil Service, the others being Deputy-Collectors recruited in India. These subdivisions are Tindivanam, comprising the Tindivanam, Tiruvannāmalai, and Villupuram *tāluks*; Chidambaram, comprising the Chidambaram and Vriddhāchalam *tāluks*; Tirukkoyilūr, comprising the Kallakurchi and Tirukkoyilūr *tāluks*; and Cuddalore, which contains only the Cuddalore *tāluk*. A *tahsīldār* is posted to the head-quarters of each of the *tāluks*, and, except in the case of Kallakurchi, is assisted by one or more deputy-*tahsīldārs*. There is also a stationary sub-magistrate at each head-quarters station. The District contains the usual superior officers.

Civil justice and crime.

For the purposes of civil justice, a District Munsif holds his court in each *tāluk* except Tiruvannāmalai and Kallakurchi, while Cuddalore has two. There are no Subordinate Judges, and all appeals from the District Munsifs lie to the District Court, which is also the Court of Session. In the matter of grave crime, the District ranked eleventh in the Presidency in 1904. Murders are not common. Ordinary

thefts form a large percentage of the serious crime. Cattle thefts, robberies, and dacoities are also of frequent occurrence, though the number of these fluctuates, as elsewhere, with the state of the season. The perpetrators of a large proportion of the robberies and dacoities are the thieving class known as the Veppūr Paraiyans, who live in Veppūr in the Vriddhāchalam *tāluk* and in a number of villages round about it. They sometimes join the thieving Kuravans of Salem District. A large percentage of the cases of theft in the Tirukkoyilūr, Kallakurchi, and Vriddhāchalam *tāluks* are not reported to the police; and the owners eventually get back their property by paying a sum of money, the amount of which depends upon the value of the property lost, to well-known go-betweens, who are often the descendants of former robber chiefs and are still known locally as *poligārs*. This practice is exceedingly difficult to break down. The proximity of Pondicherry affords considerable facilities to bad characters in evading arrest and renders the work of the police more than usually difficult.

Land revenue administration.

The revenue administration of the District passed into the hands of the East India Company along with the rest of the Carnatic in 1801. Prior to that date the Company had possessed only a small tract of territory round Fort St. David, which was known as the District of Cuddalore. The revenue of this territory was generally farmed out to renters. The land appears to have been divided into rice and small-grain land, but the assessment levied on each class is not now ascertainable and the determination of the exact rates was probably left to the renters. Apparently these were moderate, as previous to the Mysore Wars the country is stated to have been in a highly prosperous state.

Little is known of the revenue history of the rest of the District either under the Hindu Rājās or the Muhammadan rulers till the time of Nawāb Muhammad Alī, when the famous Rāyoji, the Nawāb's manager, first fixed the revenue by measuring the fields and conducting a rough survey. For some years Rāyoji collected the revenue without the intervention of renters. Afterwards he was himself appointed by the Nawāb the renter of the whole *Sūbah* (the assessment payable by him being $13\frac{1}{2}$ lakhs of pagodas), and he continued as such until his death in the war with Haidar Alī. Under Rāyoji's settlement 'wet' land paid an assessment in kind, and 'dry' and garden land paid a money rent the

amount of which depended on the crops raised. The assessment in kind was converted into money at the average selling price before it was collected.

The system of farming the revenue and the rates of assessment introduced by Rāyoji were continued for some time after 1801 by British Collectors. In 1802-3 Mr. Garrow made the first attempt to effect a settlement of the demand with individual ryots. In 1804-5 the Districts of Mannārgudi and Chidambaram were annexed. A systematic survey and settlement was introduced by Mr. Ravenshaw in 1806-7 in the major portion of the District as then constituted. In 1808, in accordance with the policy of a permanent settlement which had come into favour, whole villages were leased out to renters for a period of three years for a fixed sum. As elsewhere, this system proved a failure. In the same year the District of Cuddalore was incorporated with that of South Arcot, and some of its northern *tāluks* were transferred to the Chittoor and Chingleput Districts. In 1811 the triennial leases were replaced by decennial leases, but these also proved a complete failure. The Board of Directors eventually recorded their disapproval of the lease system and of a permanent settlement, and consequently the *ryotwāri* settlement was restored in 1821. Four years later, the system of annual settlements and the collection of the revenue in instalments somewhat on the lines now in force was adopted, and in the same year the survey and settlement first partially introduced by Mr. Ravenshaw was extended to the rest of the District. The rates which this officer had fixed were, however, found to be too high, and in 1854 revised rates more favourable to the cultivators were introduced while Mr. Maltby was Collector. The area under cultivation then increased enormously. In 1859 the rates of assessment on 'dry' land were still further reduced. In the same year part of the Chetput *tāluk* was transferred to North Arcot District, and South Arcot assumed its present dimensions. Mr. Maltby's settlement continued till 1883, when a new survey and a resettlement were begun which were completed in 1894. The survey proved that the occupied area had increased by 7 per cent. on the extent shown in the old accounts, and the settlement enhanced the total revenue by 3 per cent. or a little more than a lakh of rupees. The average assessment on 'dry' land is now Rs. 1-3-4 per acre (maximum, Rs. 3-8-0; minimum, 6 annas), and on 'wet' land Rs. 5-6-0 (maximum, Rs. 9; minimum, Rs. 2). The revenue from land and the

total revenue in recent years are given below, in thousands of rupees :—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	35,02	39,65	46,01	49,57
Total revenue . .	41,48	52,12	60,40	71,67

Local boards.

Outside the municipal towns, local affairs are under the management of the District board and the four *tāluk* boards of Cuddalore, Chidambaram, Tirukkoyilūr, and Tindivanam, the areas controlled by which correspond with those of the four administrative subdivisions of the same names. The total expenditure of these boards in 1903-4 was 4·92 lakhs, of which about 58 per cent. was laid out on roads and buildings. The chief source of income is, as elsewhere, the land cess. There are twenty-one Union *panchāyats*, which manage the affairs of the same number of small towns.

Police and jails.

Police administration is in charge of a District Superintendent at Cuddalore, aided by an Assistant Superintendent stationed at Tirukkoyilūr. There are 86 police stations; and the force in 1904 numbered 17 inspectors, 796 constables, and 124 head-constables, and also 2,043 rural police. Besides the Cuddalore District jail, 17 subsidiary jails have accommodation for 337 prisoners, male and female.

Education.

According to the Census of 1901 South Arcot stands ninth among the twenty-two Districts of the Presidency in the literacy of its male population and twelfth in that of its female population, 13·8 per cent. of the former and 0·5 per cent. of the latter, or 7·1 per cent. of the total, being able to read and write. Education is most advanced in the Cuddalore and Chidambaram *tāluks*, and most backward in Kallakurchi and Tiruvannāmalai. The District is the only one in the Presidency in which the Christians are worse educated than either Hindus or Muhammadans. The total number of pupils in 1880-1 was 15,302; in 1890-1, 32,189; in 1900-1, 44,215; and in 1903-4, 48,271. At the end of 1903-4 South Arcot contained 1,540 educational institutions of all kinds, of which 1,178 were classed as public, and the remainder as private. Of the former, 1,141 were primary schools, secondary institutions numbered 29, and there were 7 training and other special schools, and an Arts college at Cuddalore. In the public and private institutions taken together, 4,476 girls were under instruction. Of the 1,178 public institutions, 16 were managed by the Educational department, 99 by the local boards, and 11 by the munici-

palities, while 530 were aided from public funds, and 522 were unaided but conformed to the rules of the department. Only 6 per cent. of the boys and 18 per cent. of the girls under instruction have advanced beyond the primary classes. Of the male population of school-going age 20 per cent. were in the primary stage, and of the female population of the same age 2 per cent. Among Musalmāns, who, however, form a very small proportion of the population, the corresponding percentages were 50 and 6. About 4,000 Panchama pupils were under instruction at 168 schools especially maintained for their education. The Arts college, which is of the second grade, is the St. Joseph's College in Cuddalore. The total expenditure on education in 1903-4 was Rs. 2,39,000, of which Rs. 92,000 was derived from fees. Of the total, Rs. 1,48,000, or 62 per cent., was devoted to primary education.

Hospitals and dispensaries.

There are 8 hospitals and 16 dispensaries in the District. The former are situated at the *tāluk* head-quarters, and the latter are mostly at the deputy-*tahsīldārs'* stations. They contain 140 beds for in-patients; 1,700 in-patients and 248,000 out-patients were treated during 1903, and 9,100 operations were performed. The total cost of the maintenance of these institutions was Rs. 55,000, most of it being met from Local and municipal funds.

Vaccination.

The figures of 1903-4 show that the District was below the average of the Presidency as regards the number of persons protected from small-pox, and that the number of deaths from that disease was above the average. The number of persons successfully vaccinated during the year was 28 per mille of the population, compared with 30 per mille for the Province as a whole. Vaccination is compulsory in the three municipal towns and in eleven of the Unions.

[W. Francis, *District Gazetteer*, 1905.]

Tindivanam Subdivision.—Subdivision of South Arcot District, Madras, consisting of the *tāluks* of TINDIVANAM, TIRUVANNĀMALAI, and VILLUPURAM.

Tindivanam Tāluk.—North-eastern *tāluk* of South Arcot District, Madras, lying between 12° 2′ and 12° 29′ N. and 79° 13′ and 80° E., on the shore of the Bay of Bengal, with an area of 816 square miles. The population rose from 316,018 in 1891 to 338,973 in 1901. It contains 473 villages and one town, TINDIVANAM (population, 11,373), the head-quarters of the *tāluk* and of the subdivision. The demand for land revenue and cesses amounted in 1903-4 to Rs. 7,78,000. The *tāluk* ranks third in point of area in the District, and is the only one

which has no direct irrigation from channels. It is a level plain, standing at a rather higher level than the rest of the District and draining south-eastwards. On the western border are the picturesque hills surrounding GINGEE, but along the coast much of the land is low-lying and swampy.

Tiruvannāmalai Tāluk.—North-western *tāluk* of South Arcot District, Madras, lying between 11° 58′ and 12° 35′ N. and 78° 38′ and 79° 17′ E. In the west a spur of the JAVĀDI HILLS of North Arcot, locally known as the Tenmalais ('south hills'), runs down into it; and in the south it includes the corner of the KALRĀYAN HILLS round about Chekkadi, which is sometimes called the Chekkadi Hills. Both these ranges are malarious. They are inhabited by Malaiyālis, a body of Tamils who at some remote period settled upon them and now differ considerably from their fellows in the plains in their ways and customs. On them are large blocks of 'reserved' forest in which grow sandal-wood, teak, and a few other timber trees, forming the most important of the Reserves in the District. Tiruvannāmalai is the largest *tāluk* in South Arcot, its area being 1,009 square miles, and its population, which numbered 244,085 in 1901, compared with 205,403 in 1891, increased during that decade by 18·8 per cent., showing a higher rate of growth than any other. It is still, however, the most sparsely peopled in the District, the density being only 242 persons per square mile, compared with the District average of 450. It contains 400 villages and one town, the municipality of TIRUVANNĀMALAI (population, 17,060), the head-quarters. The rainfall is the lightest in South Arcot, being 36 inches annually compared with the District average of 43 inches; and the *tāluk* is more liable to scarcity than its neighbours. The demand for land revenue and cesses amounted in 1903–4 to Rs. 4,32,000.

Villupuram Tāluk.—*Tāluk* in South Arcot District, Madras, lying between 11° 47′ and 12° 10′ N. and 79° 15′ and 79° 52′ E., on the coast of the Bay of Bengal, with an area of 509 square miles. The French Settlement of PONDICHERRY is within its boundaries. It contains 300 villages and one town, VILLUPURAM (population, 11,26), the head-quarters. The population, which consists mainly of Hindus, rose from 301,746 in 1891 to 313,607 in 1901, the rate of increase being 3·9 per cent., the lowest for any *tāluk* in the District. The demand for land revenue and cesses amounted in 1903–4 to Rs. 6,65,000. Villupuram is an almost level plain, devoid of natural features, covered with the fertile alluvium of the PONNAIYĀR basin, and sloping gradually to the sea.

Tirukkoyilūr Subdivision.—Subdivision of South Arcot District, Madras, consisting of the *tāluks* of TIRUKKOYILŪR and KALLAKURCHI.

Tirukkoyilūr Tāluk.—Central inland *tāluk* of South Arcot District, Madras, lying between 11° 38′ and 12° 5′ N. and 79° 4′ and 79° 31′ E., with an area of 584 square miles. The population in 1901 was 285,068, compared with 261,026 in 1891. It contains 350 villages and one town, TIRUKKOYILŪR (population, 8,617), the head-quarters of the *tāluk* and of the subdivision. The demand for land revenue and cesses amounted in 1903-4 to Rs. 5,84,000. Two of the chief rivers of the District, the Ponnaiyār and the Gadilam, cross the *tāluk*; and on the former, 3 miles below Tirukkoyilūr, a dam has been constructed for irrigation which feeds some of the most important channels in the District. In the west the *tāluk* is diversified by a few stony granite hills and ridges, but the rest consists of a featureless plain of alluvial soil sloping gradually down to the sea.

Kallakurchi.—Western *tāluk* of South Arcot District, Madras, lying between 11° 34′ and 12° 4′ N. and 78° 38′ and 79° 13′ E., with an area of 873 square miles. The KALRĀYANS, one of the only two hill-ranges in the District, skirt its western border, and south of them the Atūr Pass leads into Salem District. The population in 1901 was 269,377, having risen from 239,405 in 1891. There are no towns; but it contains 367 villages, of which Kallakurchi, the head-quarters, is situated on the trunk road from Cuddalore to Salem. It is the second largest *tāluk* in the District, and the second most sparsely peopled. The demand for land revenue and cesses amounted in 1903-4 to Rs. 4,92,000. In the hills in the west rise several small streams, which are utilized for irrigation by means of rough stone dams. The hill villages, which number 96, are divided into 3 *pālaiyams* or estates. The *poligārs* or chiefs obtain their revenue chiefly by leasing out the forests and by a poll-tax on their tenants, who are all Malaiyālis by caste. There is no irrigated cultivation on the hills; the principal 'dry' crops grown are *rāgi*, *cambu*, *tinai* (*Setaria italica*, a poor kind of millet), and *varagu*. Bamboos and timber of various kinds are taken down to the plains, and sold for housebuilding and other purposes.

Cuddalore Tāluk.—Head-quarters *tāluk* and subdivision of South Arcot District, Madras, lying between 11° 30′ and 11° 52′ N. and 79° 26′ and 79° 47′ E., on the coast of the Bay of Bengal. It is more thickly populated than any other,

the density being 808 persons per square mile compared with the District average of 450. The population was 361,776 in 1901, and 361,303 in 1891. It contains three towns—namely, the municipality of CUDDALORE (population, 52,216), the head-quarters of the *tāluk* and the District, PANRUTI (15,206), and NELLIKUPPAM (13,137)—and 224 villages. The demand for land revenue and cesses amounted in 1903–4 to Rs. 5,23,000. Large areas are planted with casuarina and fruit trees. The *tāluk* consists for the most part of a level alluvial plain of great fertility but few natural features. Diagonally across it, however, runs the plateau of Mount Capper, a high lateritic table-land, and on this the rich alluvium gives place to a barren red soil in which little will grow.

Chidambaram Subdivision.—Subdivision of South Arcot District, Madras, consisting of the *tāluks* of CHIDAMBARAM and VRIDDHĀCHALAM.

Chidambaram Tāluk.—Southern *tāluk* of South Arcot District, Madras, lying between 11° 11′ and 11° 30′ N. and 79° 19′ and 79° 49′ E., with an area of 402 square miles. The Coleroon bounds it on the south, separating it from Tanjore, and the river VELLĀR runs across it; thus, unlike the rest of the District, it contains wide irrigated areas watered by large works from these rivers. The channels from the Lower Anicut across the Coleroon supply about 246 villages. The population in 1901 was 294,868, compared with 282,275 in 1891. It contains 336 villages and two towns: namely, CHIDAMBARAM (population, 19,909), a municipality and the head-quarters of the *tāluk*, and PORTO NOVO (13,712), a seaport. The demand for land revenue and cesses amounted in 1903–4 to Rs. 9,33,000. The density of population is as high as 734 persons per square mile, the District average being 450; and the annual rainfall, which is about 51 inches, is heavier than in any other *tāluk*.

Vriddhāchalam Tāluk.—One of the two southern *tāluks* forming the Chidambaram subdivision of South Arcot District, Madras. It lies between 11° 23′ and 11° 41′ N. and 78° 50′ and 79° 34′ E., and has an area of 576 square miles. The population rose to 242,140 in 1901 from 219,675 in 1891. It contains 295 villages and one town, VRIDDHĀCHALAM (population, 9,433), the head-quarters, a place of some historical importance. The demand for land revenue and cesses amounted in 1903–4 to Rs. 5,83,000. It is essentially an unirrigated region, the 'wet' cultivation being only one-eleventh of the 'dry' area. The rivers running through it are the VELLĀR and its tributary the Manimuktānadī; the waters of the latter at Vriddhāchalam

are considered especially sacred. The *tāluk* contains no hills and is not picturesque. Large areas are covered with a black soil on which cotton and acacias flourish, but which is very dreary in appearance during the dry season.

Chidambaram Town (*Chit Ambalam*, 'the atmosphere of wisdom').—Head-quarters of the *tāluk* of the same name in South Arcot District, Madras, situated in 11° 25′ N. and 79° 42′ E., on the South Indian Railway. The population in 1901 was 19,909, of whom 18,627 were Hindus and 1,199 Musalmāns. A municipality was constituted in 1873. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 24,800 and Rs. 25,100 respectively. In 1903–4 they were Rs. 25,800 and Rs. 27,600, the former consisting chiefly of the proceeds of the taxes on houses and land. An estimate for a water-supply amounting to Rs. 2,82,000 is now under consideration.

During the Carnatic Wars Chidambaram was a place of considerable strategic importance. In 1749 the ill-fated expedition under Captain Cope against Devikottai halted here on its retreat to Fort St. David. In 1753 the French occupied it. In 1759 an attempt by the English failed, but it capitulated to Major Monson in 1760. Later on, Haidar Alī improved the defences and placed a garrison in the great temple. In 1781 Sir Eyre Coote attacked the temple, but was driven off.

Chidambaram is principally famous for its great Siva temple. This covers an area of 39 acres in the heart of the town, and is surrounded on all four sides by streets about 60 feet wide. It contains one of the five great *lingams*, namely, the 'air *lingam*,' which is known also as the Chidambara Rahasyam or the 'secret of Chidambaram.' No *lingam* actually exists; but a curtain is hung before a wall, and when visitors enter the curtain is withdrawn and the wall exhibited, the '*lingam* of air' being, of course, invisible. The temple is held in the highest reverence throughout Southern India and Ceylon, and one of the annual festivals held in December and January is largely attended by pilgrims from all parts of India. As an architectural edifice it is a wonderful structure, for it stands in the middle of an alluvial plain between two rivers where there is no building-stone within 40 miles; and yet the outer walls are faced with dressed granite, the whole of the great area enclosed by the inner walls is paved with stone, the temple contains a hall which stands on more than 1,000 monolithic pillars, into the gateways are built blocks of stone 30 feet high and more than 3 feet square, and the reservoir,

which is 150 feet long and 100 feet broad and very deep, has long flights of stone steps leading down to the water on all four sides. The labour expended in bringing all this and other material 40 miles through a country without roads and across the VELLĀR river must have been enormous.

The temple contains five Sabhas or halls, besides shrines to Vishnu and Ganesa. Its age and architecture are discussed at some length in Fergusson's *History of Indian Architecture*, which also contains several woodcuts of different parts of it. The Nāttukottai subdivision of the Chetti caste have recently been restoring the building at considerable cost. It possesses no landed endowments, and is managed in a most unusual way by the members of a sect of Brāhmans called Dīkshitars, who are peculiar to Chidambaram and depend entirely upon public offerings for their own maintenance and for the up-keep of the temple. The management may be described as a domestic hierarchy, each male married member of the sect possessing an equal share in its control. No accounts are kept. The Dīkshitars take it in turns to perform the daily worship. Except the temple the place contains little of interest. There is a rest-house built by a Nāttukottai Chetti in which poor pilgrims are fed daily, and many other rest-houses provide accommodation for travellers. A high school in the town is managed by the trustees of the well-known Pachayyappa charities.

Cuddalore Town.—Head-quarters of the *tāluk* of the same name and of the District of South Arcot, Madras, situated in 11° 46′ N. and 79° 46′ E., on the trunk road from Trichinopoly to Madras, 118 miles by road and 125 by rail south of Madras and 12 miles south of PONDICHERRY. It is made up of several different quarters, chief of which are Cuddalore New Town, consisting of Tirupāpuliyūr, noted for its ancient Siva temple, and Manjakuppam, containing the principal public offices and European bungalows picturesquely situated among fine trees on the four sides of a large open plain; Devanāmpatnam, in which are the ruins of old FORT ST. DAVID; and Cuddalore Old Town, a seaport and the chief trading centre of the District. Two rivers, the Ponnaiyār and the Gadilam, pass through it to the sea; and the name of the town is supposed to be a corruption of Kūdal-ūr, meaning 'junction town,' or the place where the two rivers meet. These rivers are liable to heavy floods, and in 1884 they united and their waters swept through the town for twenty-four hours. The current tore across the plain round which the offices stand to

a depth of 5 feet, and a youth narrowly escaped drowning close to the old time-gun there.

The population of Cuddalore in 1871 was 40,290; in 1881, 43,545; in 1891, 47,355; and in 1901, 52,216. It has thus increased steadily in size, and is now the eleventh largest town in the Presidency. Of the total in 1901, 47,833 were Hindus, and the remainder were about equally divided between Christians and Musalmāns. Cuddalore was constituted a municipality in 1866. The municipal area extends over 13 square miles, including 18 villages and hamlets. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 50,500 and Rs. 49,300 respectively. In 1903–4 the income was Rs. 59,000, chiefly derived from the house and land taxes (Rs. 16,600) and tolls (Rs. 13,600); and the expenditure was Rs. 57,500, including conservancy (Rs. 16,800), roads and buildings (Rs. 11,200), and the municipal hospital (which contains beds for 48 in-patients) and dispensaries (Rs. 10,400). Being the administrative head-quarters of the District, Cuddalore contains all the chief public offices and courts, a Protestant and a Roman Catholic church, the District jail, &c., besides the sea-customs and marine establishments. The Collector's residence is the old Garden House of the Governors of Fort St. David, which was the scene of some fierce fighting in the wars with the French. The port of Cuddalore is the largest in South Arcot. Coasting steamers call periodically, and foreign vessels also touch to load with ground-nuts, the chief export of the District. The total imports and exports in 1903–4 were valued at 20 lakhs and 137 lakhs respectively. The old-established firm of Messrs. Parry & Co. has an important branch office here, which is located in the building originally constructed for the East India Company's factory and afterwards used as the District jail; and other firms are being attracted by the ground-nut trade.

Cuddalore has a reputation for healthiness; and elephantiasis, which was at one time painfully frequent, is now disappearing from the Old Town, owing to the supply of filtered water from a reservoir near by. This supply is, however, only brought down to one part of the town and is limited in quantity. A more ambitious scheme has been prepared, but its cost (3·7 lakhs) is more than the municipality is able to afford at present. A dispensary for women and children, near the railway station in New Town, built by Rājā Sir S. Rāmaswāmi Mudaliyār, is maintained from Local and municipal funds. *Kailis* and fabrics of silk mixed with cotton are the

chief manufacture. On the outskirts of the town, on Mount Capper (the Bandapolam Hill of Orme), is the new District jail, which was constructed by convict labour and has accommodation for 406 prisoners. Considerable quantities of cotton goods, including carpets and towels, are manufactured in it by the convicts.

Cuddalore is the educational centre of the District, the chief institutions being St. Joseph's College, a French Roman Catholic establishment of the second grade possessing a boarding-house for native Christians; and the Cuddalore College, which is managed by a local committee and teaches up to the Matriculation standard.

The history of Cuddalore dates as far back as 1682, when the Company opened negotiations with the Khān of GINGEE for permission to settle here. In 1684 a formal lease was obtained for the present port and the former fortress, of which no remains now exist. During the next ten years trade increased so rapidly that the Company erected Fort St. David for the protection of the place and rebuilt their warehouses. On the fall of Madras in 1746, the head-quarters of the Presidency were transferred to Fort St. David, where they remained till 1752.

David, Fort St.—A ruined fortress in the Cuddalore *tāluk* of South Arcot District, Madras, situated in 11° 45′ N. and 79° 47′ E., on the bank of the Gadilam river near the point where it falls into the Bay of Bengal, about 1½ miles east of Cuddalore New Town. The place is now included within the limits of the municipality of CUDDALORE, and several European bungalows have been erected within its crumbling lines. It has as stirring a history as almost any spot in the Presidency. The Dutch and the French both had settlements here at one time. There was a small fort, which had been built by a Hindu merchant named Chinnia Chetti, and after the capture of Gingee by Sivajī in 1677 this passed into the possession of the Marāthās. From them it was purchased by the English in 1690, the sale including all the land round to the distance of a 'randome shott of a great gun.' The great gun was carefully loaded and fired to the different points of the compass, and wherever its shot fell a boundary mark was set up. The villages so obtained are called the 'cannon-ball villages' to this day. The place was originally known in those days as Tegnapatam or Devipatam; and it has been conjectured with much probability that it was named Fort St. David by Elihu Yale, then Governor of Fort St. George,

who was a Welshman, in honour of his country's patron saint. From 1725 onwards the fortifications were greatly improved and the place became of considerable strength. Upon the capitulation of Madras to the French under La Bourdonnais in 1746, Fort St. David became the British head-quarters on the coast, and the Company's Agents there assumed the general administration of affairs in the South of India. They successfully resisted an attack made in the same year by Dupleix. Clive received his first commission here in 1747 and was appointed its Governor in 1756. In 1758 the French under Lally (see the graphic account of the affair in Orme's History) captured and dismantled the fort, but abandoned it in 1760 when Eyre Coote marched on Pondicherry. In 1782 they again took it, and restored its defences in 1783 sufficiently to withstand an attack by General Stuart. It was given back to the English in 1785. A curious feature of the fortifications was the subterranean passages under the glacis. These appear to have run completely round the fort, thus forming a safe means of communication for the garrison. At short intervals other galleries, striking off at right angles and terminating in powder chambers, served as mines. At the south-east corner the gallery ran down to the edge of the sea. Some of these passages are still to be seen.

Gingee (*Gingi*).—A famous rock-fortress in the Tindivanam *tāluk* of South Arcot District, Madras, situated in 12° 15′ N. and 79° 25′ E., on the road from Tindivanam to Tiruvannāmalai. The interest of the place is chiefly historical. The existing village is a mere hamlet, with a population (1901) of only 524. The fortress consists of three strongly defended hills—Rājagiri, Kistnagiri, and Chandrāya Drug—connected by long walls of circumvallation. The most notable is Rājagiri, on which stands the citadel. It is about 500 or 600 feet high, and consists of a ridge terminating in a great overhanging bluff facing the south, and falling with a precipitous sweep to the plain on the north. The citadel is on the summit of this bluff. At the point where the ridge meets the base of the bluff, a narrow and steep ravine gives a difficult means of access to the top. On every other side it is quite inaccessible, the sides of the rock rising sheer from the base to a great height. Across this ravine the Hindu engineers built three walls, each about 20 or 25 feet high, and rising one behind the other at some little distance, which rendered an attack by escalade in that direction almost impracticable. The way to the summit leads through the three walls by

several gateways; but at the very top this portion of the rock is divided by a narrow chasm 24 feet wide and 60 feet deep from the main mass of the hill, and the only way into the citadel is across this chasm. The fortifiers of the rock artificially prolonged and heightened it, threw a wooden bridge across, and made the only means of ingress into the citadel through a narrow stone gateway facing the bridge and about 30 yards from it, which was fortified on the side of the citadel with flanking walls fitted with embrasures for guns and loop-holed for musketry. It has been said with truth that in the conditions of warfare then existing this gateway could have been held by ten men against ten thousand.

It is not known with certainty who constructed the fort, but historical accounts and the nature of the buildings point to the conclusion that the credit of building it belongs mainly, if not entirely, to the ancient Vijayanagar dynasty. The round towers and cavaliers show traces of European supervision, and some of the more modern embrasures were the work of the French. The great lines of fortifications which cross the valley between the three hills, enclosing an area of 7 square miles, were evidently built at different periods. In their original form, each consisted of a wall about 5 feet thick, built up of blocks of granite and filled in with rubble; but subsequently a huge earthen rampart, about 25 or 30 feet thick, has been thrown up behind these walls, and revetted roughly on the inside with stone, while at intervals in this rampart are barracks or guard-rooms.

Several ruins of fine buildings are situated within the fort. Of these the most remarkable are the two temples, the Kalyāna Mahal, the gymnasium, the granaries, and the Idgāh. There are various picturesque *mantapams*, or buildings supported on stone pillars, on each of the hills, and a large granary on the top of Kistnagiri. The most attractive ruin of all, perhaps, is the Kalyāna Mahal, which consists of a square court surrounded by rooms for the ladies of the governor's household. In the middle of this court is a square tower of eight storeys, about 80 feet high, with a pyramidal roof. The first six storeys are all of the same size and pattern: namely, an arcaded veranda running round a small room about 8 feet square, and communicating with the storey above by means of small steps. The room on the seventh storey has now no veranda, but there are indications that one formerly existed. The topmost room is of smaller size than the others.

The principal objects of interest in the fort are the great gun

ground-nuts from Tirukkoyilūr, Kallakurchi, and even the eastern part of Salem District being carted to it by road; and many native merchants, besides an English firm, have branches of their business within it. Brick-making is carried on to a large extent, as the clay of the place is specially suitable. The town is famous for what are known as Panruti toys. These are made of clay, and represent vegetables and fruits of various kinds as well as figures of gods and men.

Porto Novo.—Town and port in the Chidambaram *tāluk* of South Arcot District, Madras, situated in 11° 30′ N. and 79° 46′ E., at the mouth of the river VELLĀR. Population (1901), 13,712, more than a fourth of whom are Musalmāns. It is known in Tamil as Parangipettai, or 'Europeans' town,' and is one of the two ports of the District. The Portuguese founded here, during the latter part of the sixteenth century, the first European settlement on the Coromandel Coast within the limits of the GINGEE country. An English settlement was established in 1683. In 1780 the town was plundered by Haidar Alī, and in July of the following year was fought in its vicinity the famous battle between Sir Eyre Coote and Haidar, in which the English won a signal victory. The battle was one of the most decisive of all those fought with Haidar's troops, for had the English retreated the whole CARNATIC would have been at Haidar's mercy. The place was twice captured by the French and was finally restored to the English in 1785. Porto Novo is a Union under the Local Boards Act and contains a salt factory. It had once a considerable trade with Ceylon and Achin, but this has declined. The value of the exports and imports in 1903-4 was Rs. 12,50,000 and Rs. 59,000 respectively. The only special manufacture is a species of mat made from the leaves of the screw-pine. The Porto Novo ironworks attained much notoriety in the early years of the last century. Their melancholy history is referred to in the account of South Arcot District.

Srīmushnam.—Village in the Chidambaram *tāluk* of South Arcot District, Madras, situated in 11° 23′ N. and 79° 24′ E. Population (1901), 3,918. It has an old Vishnu temple, which is considered to stand next to that at Srīrangam in point of sanctity. The idol of Bhūvarāhaswāmi in it is alleged to be self-created. The shrine is said to have been destroyed three times during the Kali Yuga, and to have been rebuilt as it now is by Achyutappa Naik of Tanjore. Among some fine carvings in a black stone (probably trap) are four well-executed figures, said to represent Achyutappa Naik and his three brothers.

The local history of the temple relates that the locality where it is situated was called Srīmushnam ('destruction of prosperity'), because Vishnu lived there after rescuing the world from the depths of the ocean, whither it had been carried by the demon Hiranyāksha. The drops of water which ran off his body when he emerged from the sea made the reservoir attached to the shrine. There are two great annual festivals. At one of them the idol is taken to bathe in the sea at the point on the shore opposite the supposed meeting-place, out at sea, of the waters of the Vellār and the Coleroon.

Tindivanam Town.—Head-quarters of the *tāluk* and subdivision of the same name in South Arcot District, Madras, situated in 12° 15′ N. and 79° 39′ E., on the South Indian Railway. The correct name of the place is Tintrinivanam, meaning 'tamarind jungle.' It consists of several little hamlets, one of which, Gidangal, was once a fortified place. The ruins of ramparts and ditch still exist. The place is a Union under the Local Boards Act, and its population in 1901 was 11,373.

Tirukkoyilūr Town.—Head-quarters of the *tāluk* and subdivision of the same name in South Arcot District, Madras, situated in 11° 58′ N. and 79° 12′ E., on the south bank of the Ponnaiyār. The South Indian Railway passes through it, and there is a proposal to construct a branch to Trichinopoly. The place contains two famous temples, one dedicated to Vishnu and the other to Siva. The population in 1901 was 8,617, and it is a Union under the Local Boards Act. Not far from it is a dam across the Ponnaiyār which supplies an important series of irrigation channels.

Tiruvannāmalai Town.—Head-quarters of the *tāluk* of the same name in South Arcot District, Madras, situated in 12° 14′ N. and 79° 4′ E., with a station on the Villupuram-Dharmavaram branch of the South Indian Railway. The population in 1901 was 17,069, of whom 14,981 were Hindus, 1,932 Musalmāns, and the rest Christians. Roads diverge in four directions, and it is an entrepôt of trade between South Arcot and the country to the west. The name means 'holy fire hill,' and is derived from the isolated peak at the back of the town, 2,668 feet above the sea, which is a conspicuous object for many miles around. The story runs that Siva and Pārvatī his wife were walking one evening in the flower garden of Kailāsa, when Pārvatī playfully put her hands over Siva's eyes. Instantly the whole world became darkened and the sun and moon ceased to give light; and though to Siva and his

wife it seemed only a moment, yet to the unfortunate dwellers in the world the period of darkness lasted for years. They petitioned Siva for relief, and to punish Pārvatī for her thoughtlessness he ordered her to do penance at various holy places. Tiruvannāmalai was one of these, and when she had performed her penance there Siva appeared as a flame of fire at the top of the hill as a sign that she was forgiven. A large and beautifully sculptured temple stands at the foot of the hill, and at a festival in the month of Kārtigai (November-December) the priests light a huge beacon at the top of the hill in memory of the story. This festival is one of the chief cattle fairs in the District. The hill and the temple, commanding the Chengam Pass into Salem, played an important part in the Wars of the Carnatic. Between 1753 and 1790 they were subject to repeated attacks and captures. From 1760 the place was a British post, and Colonel Smith fell back upon it in 1767 as he retired through the Chengam Pass before Haidar Alī and the Nizām. Here he held out till reinforced, when he signally defeated the allies. In 1790, after being repulsed from Tyāga Durgam, Tipū attacked the town and captured it. Tiruvannāmalai was constituted a municipality in 1896. The receipts and expenditure up to 1902–3 averaged Rs. 18,800 and Rs. 18,500 respectively. In 1903–4 the income, most of which was derived from tolls and the house and land taxes, was Rs. 20,800, and the expenditure was Rs. 19,100. The municipal area covers 11 square miles. One of the chief reasons for bringing it under sanitary control was that cholera used frequently to break out at the annual festival and be carried by the fleeing pilgrims far and wide through the District. The great want of the place is a proper water-supply, and experiments are in course of initiation.

Tyāga Durgam.—A small fortified hill in the *tāluk* of Kallakurchi in South Arcot District, Madras, situated in 11° 45′ N. and 79° 5′ E., about 7 miles east of Kallakurchi town, at the intersection of the old road from Arcot to Trichinopoly with the road from Salem to Cuddalore. Its position on these main routes made it formerly of great strategical importance, and it was regularly fortified and garrisoned. Like the fortress of Tiruvannāmalai, it formed one of the bulwarks of the District against invasion from the west, and was the scene of much hard fighting in the Carnatic Wars. Between 1757 and 1780 it was regularly invested five times and blockaded once, and it repeatedly changed hands between the English, the French, and the Mysore ruler. It formed the

rendezvous of Haidar's troops before joining Lally at Pondicherry, and here they again collected when retreating before Coote. In 1790 Captain Flint repulsed the attack made on the town by Tipū. The hill consists of two knolls or bosses, at the foot of one of which is a pool of excellent water under an overhanging rock partly surrounded by a low masonry wall. This water is said never to go dry, and during the exceptionally rainless season of 1876 there was a good supply in it when drinking water was difficult to get in the village below. This village, which is built round the hill, is known by the same name. It is a Union under the Local Boards Act, with a population (1901) of 4,125.

Villupuram Town.—Head-quarters of the *tāluk* of the same name in South Arcot District, Madras, situated in 11° 56′ N. and 79° 29′ E., on the trunk road to Trichinopoly. It is an important junction on the South Indian Railway, the branch from Pondicherry and the Villupuram-Dharmavaram section which connects with the Southern Mahratta Railway meeting the main line here. It was taken by Captain Wood in 1760, and was then held by a British garrison to intercept communication with GINGEE. It is a Union under the Local Boards Act, with a population (1901) of 11,263.

Vriddhāchalam Town ('old mountain').—Town in the *tāluk* of the same name in South Arcot District, Madras, situated in 11° 32′ N. and 79° 20′ E., on the road from Cuddalore to Salem on the banks of the Manimuktānadī. It was once the head-quarters of a District Court and later of the revenue subdivision of Vriddhāchalam, and is a Union with a population (1901) of 9,433. It contains an ancient and famous temple which was once fortified. During the Carnatic Wars the place changed hands more than once. Here Pigot and Clive narrowly escaped being taken prisoners by the French in 1751. It is a sacred town and many legends are connected with it.

TANJORE DISTRICT

Boundaries and configuration.

Tanjore District (*Tanjāvūr*).—A coast District in the south of the Madras Presidency, lying between 9° 49′ and 11° 25′ N. and 78° 47′ and 79° 52′ E., with an area of 3,710 square miles. On the north the river COLEROON separates it from Trichinopoly and South Arcot Districts; on the west it is bounded by the State of Pudukkottai and Trichinopoly District; and on the south by the District of Madura. Its seaboard is made up of two sections, one extending 72 miles from the mouth of the Coleroon to POINT CALIMERE in the south, and the other bordering the Palk Strait for 68 miles from Point Calimere to Madura District in the south-west. The small French Settlement of KĀRIKĀL is situated about the middle of the former of these sections.

The northern and eastern portions of Tanjore form the delta of the river CAUVERY, which, with its numerous branches, intersects and irrigates more than half the District. This tract comprises the whole of the *tāluks* of Kumbakonam, Māyavaram, Shiyāli, and Nannilam, and parts of Tanjore, Mannārgudi, Tirutturaippūndi, and Negapatam. It is the best irrigated, and consequently the most densely populated and perhaps the richest, area in the Presidency. The southern portion of the District stands about 50 feet higher, and is a dry tract of country comprising the whole of the Pattukkottai *tāluk*, the southern portion of Tanjore, and the west of Mannārgudi.

The delta is a level alluvial plain, covered, almost without a break, by rice-fields and sloping gently towards the sea. The villages, which are usually half-hidden by coco-nut palms, stand on cramped sites but little above the level of the surrounding cultivation, like low islands in a sea of waving crops. It is devoid of forests, and has no natural eminences save the ridges and dunes of blown sand which fringe the sea-coast. These ridges are neither wide nor high, for the south-west monsoon is strong enough to counteract the work done by the north-east winds, which would otherwise gradually spread the hillocks far inland; and the heavy rainfall on the coast during the latter monsoon saturates the sand and prevents it from being carried as far as would otherwise be the case. Some protection is also

afforded by a belt of screw-pine jungle which runs between the sand ridges and the arable land along a great part of the coast-line. The southern seaboard of the Tirutturaippūndi *tāluk*, west of Point Calimere, is an extensive salt swamp several miles wide and usually covered with water.

The non-deltaic portion of the District is likewise an open plain which slopes to the east and is also destitute of hills. A small part of it lying to the south and south-west of Tanjore city rises, however, somewhat above the surrounding level and forms the little plateau of Vallam. This is the pleasantest part of the District, and here, seven miles from Tanjore city, the Collector's official residence is situated.

Except the Coleroon and the branches of the Cauvery, the District contains no rivers worthy of particular mention; but a few insignificant streams cross the Pattukkottai *tāluk*. The irrigation from the two former rivers is noticed in the section on Irrigation below.

Unfossiliferous conglomerates and sandstones occupy a large part of the District to the south and south-west of Tanjore, where they lie, when their base is visible, on an irregular surface of gneiss. Above them are disposed, in a series of flat terraces, lateritic conglomerates, gravels, and sands which gradually sink below the alluvium. All the northern and eastern tracts are composed of river, deltaic, and shore alluvium, and blown sands. Geology.

The crops of the District are briefly described below. Its trees present few remarkable features. Bamboos and coco-nut palms are plentiful in the delta, palmyras and the Alexandrian laurel on the coast, tamarind, jack, and *nīm* in the uplands of the south, while the *iluppai* (*Bassia longifolia*) and the banyan and other figs are common elsewhere. There is, however, a general deficiency of timber and firewood, which in consequence are largely imported. Flora.

The larger fauna of Tanjore present little of interest. Except in the scrub jungle near Point Calimere and in very small areas near Vallam, Shiyāli, and Madukkūr, where antelope, spotted deer, and wild hog are met with, there are no wild animals bigger than a jackal. Jackals and foxes are very common, and the ordinary game birds are found in fair quantities. The rice-fields afford good snipe-shooting. Fauna.

The climate of the District is healthy on the whole, though hot and relaxing in the delta. As the latter widens, the increased breadth of the irrigated land causes more rapid evaporation of the water with which it is covered, and hence Climate and temperature.

the country is cooler towards the sea. The delta is naturally well drained, and does not therefore suffer in point of climate as much as might be expected from the wide extension of irrigation within it. The mean temperature at Negapatam on the coast of the deltaic tract is 83°. The neighbourhood of Vallam is the healthiest and the coolest part of the District, resembling the Pattukottai *tāluk* in dryness. The latter presents a contrast to the delta, inasmuch as the heat is less in the inland and greater in the seaboard tracts. The great exception to the general healthiness of the District is the swamp stretching west from Point Calimere. That promontory was at one time considered a sanitarium, but it is now said to be feverish from April to June.

Rainfall. The annual rainfall in the District as a whole reaches the comparatively high average of over 44 inches. It is lowest in Arantāngi (35 inches) and highest in Negapatam (54 inches). Tanjore itself receives only 36 inches on an average. Most of the rain falls during the north-east monsoon, which strikes directly on the more northerly of the coast *tāluks*, and throughout these the rainfall is consequently higher than inland; but the south-west rains also reach as far as this District, and are occasionally heavier than those received from the north-east current.

The District has rarely suffered much from scarcity of rain, but serious losses from floods and hurricanes have been not infrequent. Of these disasters the most serious was the flood in the Cauvery in 1853, which covered the delta with water and, though few lives were lost, did immense damage to property. A flood in 1859 fortunately did little harm, but in 1871 a hurricane caused much loss of life and property on land and sea. There have been several inundations in more recent times, but the regulators constructed across the branches of the Cauvery have now done much to minimize the effect of such calamities.

History. Up to the middle of the tenth century the District formed part of the ancient CHOLA kingdom. During the reign of Rājārājā I (985–1011), perhaps the greatest of that dynasty, the Cholas reached the zenith of their power, their dominion at his death including almost the whole of the present Madras Presidency, together with Mysore and Coorg and the northern portion of Ceylon. Rājārājā had a well-equipped and efficient army, divided into regiments of cavalry, foot-soldiers, and archers. He carried out a careful survey of the land under cultivation and assessed it, and beautified Tanjore with public

buildings, including its famous temple. During his time, if not earlier, the civil administration also became systematized. Each village, or group of villages, had an assembly of its own called the *mahāsabha* ('great assembly'), exercising, under the supervision of local officers, an almost sovereign authority in all rural affairs. These village groups were formed into districts under district officers, and the districts into provinces under viceroys. Six such provinces made up the Chola dominions. The kingdom which Rājārājā thus established and unified remained intact until long after his death. His immediate successors were, like himself, great warriors and good administrators. Tanjore owes to them the dam (called the Grand Anicut) separating the Cauvery from the Coleroon, the great bulwark of the fertility of the District, which is described below under Irrigation, and also the main channels depending upon it.

During the thirteenth century Tanjore passed, with most of the Chola possessions, under the rule of the Hoysala Ballālas of Dorasamudra and the Pāndyas of Madura. The District probably shared in the general subjection of the south to the Muhammadan successors of Malik Kāfūr's invasion till the close of the fourteenth century, when it became part of the Hindu kingdom of Vijayanagar, which was then rising into power. During the sixteenth century one of the generals of that kingdom declared himself independent, and in the early part of the seventeenth century a successor established a Naik dynasty at Tanjore. The kings of this dynasty built most of the forts and Vaishnava temples in the District. The tragic end of the last of the line forms the subject of a popular legend to this day. He was besieged by Chokkanātha, the Madura Naik, in 1662. Finding further defence hopeless he blew up his palace and his *zanāna*, and with his son dashed out against the besiegers and fell in the thickest of the fight. An infant son of his, however, was saved, and the child's adherents sought aid from the Muhammadan king of Bijāpur. The latter deputed his general Venkājī, half-brother of the celebrated Sivajī, to drive out the usurper and restore the infant Naik. This Venkājī effected, but shortly afterwards he usurped the throne himself and founded (about 1674) a Marāthā dynasty which continued in power until the close of the eighteenth century. For seventy years his successors maintained a generally submissive attitude towards the Muhammadans, to whom they paid tribute occasionally, and engaged in conflict only with the rulers of Madura and Rāmnād.

The English first came in contact with Tanjore in 1749, when

they espoused the cause of a rival to the throne and attacked Devikottai, which the Rājā eventually ceded to them. The Rājā joined the English and Muhammad Alī against the French, but on the whole took little part in the Carnatic Wars. The capital was besieged in 1749 and 1758, and parts of the country were occasionally ravaged. In 1773 the Rājā fell into arrears with his tribute to the Nawāb of Arcot, the ally of the English, and was also believed to be intriguing with Haidar Alī of Mysore and with the Marāthās for military aid. Tanjore was accordingly occupied by the English, as the Nawāb's allies, in 1773. The Rājā was, however, restored in 1776, and concluded a treaty with the Company, by which he became their ally and Tanjore a protected State. In October, 1799, shortly after his accession, Rājā Sarabhojī resigned his dominions into the hands of the Company and received a suitable provision for his maintenance. Political relations continued unchanged during his lifetime, but he exercised sovereign authority only in his own fort and its immediate vicinity, subject to the control of the British Government. He died in 1832 and was succeeded by his only son Sivajī, on whose death without heirs in 1855 the titular dignity became extinct, and the fort and city of Tanjore became British territory.

The present District of Tanjore is made up of the country thus obtained, and of three small settlements which have separate histories. These latter are: firstly, Devikottai and the adjoining territory, which had been previously acquired by the Company from the Tanjore Rājā in 1749; secondly, the Dutch settlements of Negapatam and Nagore and the Nagore dependency, of which the first two were taken by the Dutch from the Portuguese in 1660 and annexed to the British dominions in 1781, and the third was ceded by the Rājā to the Company in 1776; and, lastly, Tranquebar, which the Danes had acquired from the Naik Rājā of Tanjore in 1620, and which they continued to hold on the payment of an annual tribute until 1845, when it was purchased by the Company.

Archaeology.

The chief objects of archaeological interest in the District are its religious buildings. Numerous temples of various dates are scattered all over it. Those at Tiruvālūr, Alangudi, and Tiruppūndurutti are mentioned in the *Devāram*, and must therefore have been in existence as early as the seventh century A. D. Inscriptions in old Tamil and Grantha characters occur in many of them. These refer mostly to the Chola period, and none has been found earlier than the tenth century. There are a few grants by Pāndya kings. The

Mannārgudi and Tiruvadamarudūr temples contain inscriptions of the Hoysala kings and some Vijayanagar grants, and many records of the later Naiks and Marāthās exist. Of all the temples in the District perhaps the most remarkable is the great shrine at Tanjore, built by Rājārājā I, which is interesting alike to the epigraphist and to the student of architecture, being a striking monument of eleventh-century workmanship, and abounding in inscriptions of the time of its founder and his successors. It is noticed more fully in the article on TANJORE City. At Kumbakonam is an ancient temple dedicated to Brahmā, a deity to whom shrines are seldom erected. The Tiruvālūr temple is another remarkable building.

The people.

The density of population averages 605 persons per square mile, and the District is the most thickly populated in the Presidency. The *tāluks* of Kumbakonam, Negapatam, and Māyavaram, which consist of the rich and closely cultivated 'wet' lands of the delta, rank respectively fourth, fifth, and sixth in the Province in the density of their inhabitants to the square mile. The population of the District was 1,973,731 in 1871; 2,130,383 in 1881; 2,228,114 in 1891; and 2,245,029 in 1901. In the decades ending 1891 and 1901 it increased less rapidly than that of any other District, owing chiefly to the very active emigration which took place to the Straits, Burma, and Ceylon. In Pattukkottai, the most sparsely peopled *tāluk*, the advance in the period 1891–1901 was as high as 9 per cent.; but this is thought to have been due less to any extension of cultivation than to the temporary immigration of labourers for the construction of the railway extension from Muttupet to Arantāngi. Of the total population in 1901 Hindus numbered 2,034,399, or 91 per cent.; Musalmāns, 123,053, or 5 per cent.; and Christians, 86,979, or 4 per cent. These last have increased twice as rapidly as the population as a whole. The District contains eleven females to every ten males, a higher proportion than is found anywhere else except in Ganjām, which is largely due to emigrants leaving their women behind them. The prevailing vernacular everywhere is Tamil.

The number of towns and villages in the District is 2,529. The principal towns are the municipalities of KUMBAKONAM, TANJORE (the administrative head-quarters), NEGAPATAM, MĀYAVARAM, and MANNĀRGUDI. Kumbakonam and Tanjore are growing far more rapidly than other urban areas, the rate of increase of their population during the decade ending 1901 being respectively 10 and 6 per cent.; but in the same period

Cauvery, but so rich is this deposit that the use of manure is extremely rare except occasionally in the case of double-crop lands. It would, however, perhaps be more freely used if it were less expensive. The richest lands tend to lie towards the apex of the delta, where the rice-fields of Tiruvādi are called, by a Virgilian metaphor, 'the breast of Tanjore'; and the fertility of the country decreases as the coast is reached, the deposits of silt from the water at the tail ends of the irrigation channels being neutralized by the influx of drainage water. The produce is poorest towards the south-west, a fact due both to the incompleteness of the irrigation system and to the greater distance the water has to travel and the consequent reduction in the amount of silt carried.

Except along the sandy coast of Pattukkottai, the non-deltaic part of the District is made up of red ferruginous soil, the irrigation of which depends on rain-fed tanks and precarious streams. In the delta by far the greater part of the land is under 'wet' cultivation, and 'dry' crops are frequent only outside it. The most fertile pieces of unirrigated land are the *padugais*, or strips of cultivation lying between the margins of the rivers and the flood embankments, which are annually submerged for some days by the silt-laden water. Tobacco, plantains, and bamboos are generally grown on these exceptionally rich fields.

Cultivation and crop statistics.

Land in Tanjore is mainly held on *ryotwāri* tenure, the *zamīndāri* and *ināms* areas covering only 1,239 square miles out of the District total of 3,710. Statistics for 1903-4 are given below, in square miles:—

Tāluk.	Area shown in accounts.	Forests.	Cultivable waste.	Cultivated.	Irrigated.
Māyavaram .	284	..	2	241	193
Shiyāli . .	171	4	3	134	94
Kumbakonam .	343	..	5	279	231
Negapatam .	240	..	9	194	143
Nannilam . .	294	..	2	250	210
Tanjore . .	578	5	36	391	162
Mannārgudi .	300	..	9	245	165
Tirutturaippūndi	484	10	28	282	124
Pattukkottai .	741	..	110	403	166
District total	3,435	19	204	2,419	1,488

Rice is the staple grain of the delta, being raised on 1,683 square miles, or 77 per cent. of the cropped area there; it is indeed the most widely grown cereal in every *tāluk*, though its

preponderance is less in Tanjore and Pattukkottai. The rice chiefly consists of varieties of the two main kinds, usually known as *kār* and *pisānam*. *Kār* rice is sown in June and reaped in September, while *pisānam* ripens more slowly and is cut in February after seven months' growth. The latter commands a higher price; but the *kār* rice requires more water, can be grown at a more favourable season of the year, and thus yields a much more abundant crop. Except between Tiruvādi and Kumbakonam, it is not usual to cultivate two crops on the same plot of land in the same year; indeed seven-eighths of the delta consists of single-crop land. Over wide areas, however, the ryots adopt what is called *ūdu* cultivation, which consists in sowing two varieties of seed, one a quick-growing kind which matures in four months, and the other a kind which requires six months to ripen, mixed together. The chief 'dry' cereals are *varagu*, *cambu*, and *rāgi*; the principal pulse, red gram; and the most important industrial crops, gingelly and ground-nuts. In the non-deltaic area *varagu* is the grain most extensively cultivated, the area under it being 97 square miles. Some *cholam* is grown in Pattukkottai, Tanjore, Mannārgudi, and Kumbakonam. Coco-nut palms and plantains are numerous; and in the last-named *tāluk* a moderate extent is cultivated with the Indian mulberry as a 'dry' crop.

Improvements in agricultural practice.

Except in the Tanjore and Tirutturaippūndi *tāluks*, where considerable areas are unfit for cultivation, almost every yard of the delta has long been under the plough. Little extension of the area tilled is therefore possible. Nor have the agricultural methods in vogue shown any noteworthy advance, two matters which hinder improvement being that much of the District is owned by absentee landlords who sublet their properties, and that in a great deal of the rest the holdings have been minutely subdivided. Wells are not required, and there is little waste land to be reclaimed, and consequently the advances under the Loans Acts have never been considerable.

Cattle, ponies, and sheep.

The delta is so closely cultivated that it contains little grazing-ground, and consequently few cattle or sheep are bred. Such animals as are reared locally are usually small, and plough bullocks are largely imported from elsewhere, chiefly from Mysore and Salem. An inferior class of ponies is bred in small numbers at Point Calimere.

Irrigation.

Of the total area under cultivation, 1,488 square miles, or 74 per cent., were irrigated in 1903-4. Of this extent by far the greater portion (1,261 square miles) was watered from Govern-

ment canals; the area supplied by tanks was only 194 square miles, and by wells 30 square miles. The tanks and wells number respectively 734 and 7,628, and are of comparatively small importance. They are found almost entirely in the upland tracts of the Tanjore and Pattukkottai *tāluks*.

As has been mentioned, the Cauvery and its branches are the principal source of irrigation, nearly 98 per cent. of the area watered from canals being supplied from them. The works which have been constructed to render the water of this river available for irrigation are referred to in the separate account of it. Briefly stated the position is this. The Cauvery throws off a branch, called the Coleroon, which forms the northern boundary of the District. This branch runs in a shorter course and at a lower level than the main stream, and consequently tends to draw off the greater part of the supply in the river. Two anicuts (or dams) have therefore been constructed to redress this tendency. One, called the Upper Anicut, crosses the Coleroon at the point where it branches off, and thus drives much of its water into the Cauvery; and the other, known as the Grand Anicut, is built across a point at which the two rivers turn to meet one another and through which much of the supply in the Cauvery used to spill into the Coleroon. Together these two dams prevent the Coleroon from robbing its parent stream of the water which is so vitally important to the cultivation of Tanjore. The supply thus secured is distributed throughout the delta by a most elaborate series of main and lesser canals and channels. Many of these, including the Grand Anicut itself, were constructed by former native governments, but the Upper Anicut and the many regulators and head-sluices which now so effectually control the distribution of the water are the work of English engineers. The Coleroon now serves mainly as a drainage channel to carry off the surplus waters of the Cauvery, but the Lower Anicut built across the latter part of its course irrigates a considerable area in South Arcot and also about 37 square miles in Tanjore.

Forests. There are no forests of any importance in the District. In the *tāluks* of Tanjore, Tirutturaippūndi, and Shiyāli, a few blocks of low jungle covering altogether 19 square miles are 'reserved'; but the growth in these is dense only at Vettangudi and Kodiyakādu, and the timber is not of any great value. The blocks are of some use as grazing land and for the supply of small fuel.

Minerals. Tanjore contains few minerals of importance. Quartz crystals

are found at Vallam, and laterite and limestone (*kankar*) are abundant in the south-west of the District. In the Tanjore *tāluk* yellow ochre is found, and gypsum of poor quality near Nagore. Along the Pudukkottai frontier iron is met with, but it is doubtful whether it could be remuneratively worked.

Arts and manufactures. The chief industries are weaving of various kinds and metal-work. Formerly Tanjore enjoyed a great reputation for its silks, but the District has suffered considerably in the decay of the textile industries which has followed the introduction of mineral dyes and the increasing importation of cheap piece-goods from Europe. The dyers have suffered most, and this once prosperous craft is now virtually extinct, the weavers doing their own dyeing or buying ready-dyed thread. The cotton- and carpet-weaving were once of some note, but have declined equally with, if not more than, the silk industry. Kornād and Ayyampettai, once famous centres of silk- and carpet-weaving, have greatly diminished in activity and importance. On the other hand the weaving of the best embroidered silks, such as the gold and silver-striped embroideries and the gold-fringed fabrics of Tanjore and Kumbakonam, shows no signs of becoming involved in the general decay.

In metal-work Tanjore is said to know no rival in the South but Madura. The Madura artisan, however, devotes himself mainly to brass, whereas in Tanjore brass, copper, and silver are equally utilized. The subjects represented are usually the deities of the Hindu pantheon or conventional floral work. The characteristic work of the District is a variety in which figures and designs executed in silver or copper are affixed to a foundation of brass. The demand for these wares is almost entirely European. The chief seats of the metal industry are Tanjore, Kumbakonam, and Mannārgudi.

Among minor industries the bell-metal of Pisānattūr and the manufacture of musical instruments and pith models and toys deserve mention. The pith models of the temple at Tanjore are well-known. The printing presses at Tanjore and Tranquebar employ a large number of hands, and in this respect the District is second only to Madras and is rivalled only by Malabar.

As distinguished from arts, manufactures are few. The South Indian Railway workshops, which for nearly forty years have been located at Negapatam, have contributed much to the prosperity of that now declining town.

Commerce.

Tanjore has the advantage from a commercial point of view of being situated on the coast and of being intersected by numerous railways. It possesses altogether fifteen ports, of which Negapatam is by far the most important. Tranquebar, Nagore, Muttupet, Adirāmpatnam, and Ammapatam are, however, ports of some pretensions. The chief centres of land trade, besides Negapatam, are Tanjore, Kumbakonam, Māyavaram, and Mannārgudi. Most of the trade, both by land and sea, is in the hands of the Chettis and the Musalmān community of the Marakkāyans, the latter being very prominent in the coast towns.

The railways naturally take a large share in the carriage of articles of internal and general inland trade, and the local distribution of commodities is effected by weekly markets managed either by private agency or by the local boards. The chief articles of inland export are rice, betel leaves, ground-nuts, oil, metal vessels, and cloths. The ground-nuts are sent to Pondicherry for export to Europe by sea, but the other commodities go by rail to all parts of Southern India. The inland imports are mainly salt from Tuticorin, gingelly and cotton seed from Mysore and Tinnevelly, kerosene oil from Madras, tamarind and timber from the West Coast, and *ghī*, chillies, pulses, and lamp-oil from the neighbouring Districts.

The total exports by sea in 1903–4 were valued at 117 lakhs. Of this Ceylon took rice to the value of 6½ lakhs, and half a lakh's worth of coco-nuts. Most of this trade was conducted from Negapatam. Besides rice, the principal exports from that port were cotton piece-goods, live-stock, *ghī*, cigars, tobacco, and skins. Large quantities of all these articles are the produce of other Districts and are only brought through Tanjore for shipment. The imports in the same year amounted to 54 lakhs. At Negapatam the most important of these were areca-nut, timber, and cotton piece-goods, while Adirāmpatnam and Muttupet received a fair quantity of gunny-bags and areca-nut. The trade of Negapatam is mostly with Ceylon, the Straits Settlements, and Burma; but it deals to a small extent with the United Kingdom and Spain. The other ports either subsist on traffic with Ceylon or confine themselves to coasting trade. The District is not at present as important a centre of maritime commerce as formerly; for the development of the port of Tuticorin has deprived it of much of its commerce, and the opening of the railway to the north-eastern Districts of the Presidency has resulted in the carriage by land of many classes of goods which were formerly imported by sea at Negapatam.

Railways and roads.

Tanjore is unusually well supplied with railways, all of them on the metre gauge. The South Indian Railway, the direct route between Madras and Tuticorin, traverses the District from north to west, passing through the towns of Māyavaram, Kumbakonam, and Tanjore. An older line connects Tanjore with Negapatam, and this has recently been extended to the neighbouring port of Nagore. A railway branches off from Māyavaram and runs southward as far as Arantāngi, a total distance of 99 miles. This was constructed jointly by the District board and the Government as far as Muttupet and was owned by them in common till 1900, when the board acquired the exclusive ownership by purchase and commenced the further extension to Arantāngi. The funds for its original construction and for the extension now in progress were raised by the levy of a cess of three pies in the rupee of the assessment on land in occupation, in addition to the cess of nine pies in the rupee collected for local purposes under the Local Boards Act. The undertaking was the first of its kind in India, and has proved such a financial success, the profits earned in 1902–3 being $4\frac{2}{3}$ per cent. on the capital outlay, that other District boards are following the example and levying a cess for similar purposes, and the Tanjore board itself is contemplating the extension of its system. The French port of Kārikāl has been linked with Peralam on the District board railway, and a short branch from Tanjore to the Pillaiyārpatti laterite quarry, 5 miles in length, is used for bringing road-metal to the main line.

The total length of metalled roads in the District is 206 miles, and of unmetalled 1,531. Of these 1,407 miles are lined with avenues of trees. With the exception of 182 miles of the unmetalled tracks, the whole of them are maintained from Local funds. The proportion of metalled to unmetalled roads is very low, owing to the extreme scarcity among the alluvial deposits, of which so much of the District consists, of any kind of stone suitable for road-making. The roads are often interrupted by the many rivers and channels which intersect the delta, and numerous bridges have accordingly been erected. That across the Grand Anicut, built in 1839, and consisting of thirty arches of a span of 32 feet each, is the most considerable of these.

Famine.

More than half of the District is protected from famine by the irrigation system already referred to. The devastations of Haidar Alī in 1781 caused perhaps the only real scarcity of food it has ever known. In the great famine of 1877, while

in other Districts people were dying by thousands of want which no human power could alleviate, not only was the relief required in Tanjore insignificant in amount, but the high prices of grain which prevailed brought exceptional prosperity to the owners of the unfailing lands of the delta. The crops, it is true, were lost in the Pattukkottai *tāluk* and the uplands, but the inhabitants of these tracts found work in the fields of the neighbouring delta. This south-east corner of the District is poorly protected, but the proximity of the irrigated land in the delta prevents the people from ever suffering seriously.

District subdivisions and staff.

The District is divided into six administrative subdivisions. Of the officers in charge of them, two or three are members of the Indian Civil Service, the others being Deputy-Collectors recruited in India. The three subdivisions of Tanjore, Kumbakonam, and Pattukkottai consist only of the single *tāluk* after which each is named; the Negapatam subdivision includes the *tāluk* of that name and also Nannilam; the Mannārgudi subdivision is made up of Mannārgudi and Tirutturaippūndi *tāluks*; and the Māyavaram subdivision of that *tāluk* and Shiyāli. At the head-quarters of each *tāluk* there is a *tahsīldār* and a stationary sub-magistrate, and deputy-*tahsīldārs* with magisterial powers are posted in every *tāluk* except Shiyāli. The superior staff of the District varies slightly from the normal. Owing to the amount of work caused by the elaborate irrigation system, two Executive Engineers are necessary, one at Tanjore and the other at Negapatam. A Civil Surgeon resides at Negapatam (where there is a considerable European population), in addition to the District Medical and Sanitary officer; but the forests of Tanjore are of such small extent that for forest purposes the District is attached to Trichinopoly.

Civil justice and crime.

Civil justice is administered by a District Judge, three Sub-Judges, and eleven District Munsifs. The people of Tanjore, like those of other wealthy areas in the Presidency, are extremely litigious and the work of the courts is heavy. In addition to suits of the usual classes, cases under the Tenancy Act VIII of 1865 are very frequent, especially in Kumbakonam. They are mostly due to the system of absentee landlordism and sub-tenancies which has grown up round the *ryotwāri* tenure in this wealthy District. Serious crime is less common in Tanjore than in any other District in the Presidency, and ordinary thefts constitute more than 55 per cent. of the total number of cases.

From the earliest times, as far as can be ascertained, the *mirāsi* system, which is in some essentials similar to the *ryotwāri* tenure, obtained in Tanjore District as a whole. It is probably as old as the Chola dynasty, but it can only be proved to date back to Marāthā times. The system appears to have been based on a theory of joint communal ownership by the villagers proper (the *mirāsidārs*) of all the village land, and in former times often involved the joint management of the common lands or their distribution at stated intervals among the villagers for cultivation. But in spite of this communistic colouring the system always involved a scale of individual rights to specific shares in the net fruits (however secured) of the general property, and herein lay all the essential elements of private ownership of land. It was only a matter of detail to be settled in the village whether a villager's share was described in terms of crops or lands, and it seems to have come about gradually that lands were everywhere assigned permanently as the share and private property of the *mirāsidār*. Such a system was equally well adapted for the taxation of the villagers in a body or of each individual ryot.

Land revenue administration.

Under the early Marāthā rulers the productive capacity of all the 'wet' lands in each village was assessed in the gross at a certain quantity of grain or grain standard, which was divided between the state and the cultivator at certain rates of division (*vāram*), the state share being converted into money at a commutation price fixed each year. The 'dry' lands were assessed at fixed rates, or had to pay the value of a fixed share of the actual harvest each year according to the nature of the crop grown. The revenue history of the District has largely consisted of variations in the grain standard of the 'wet' lands and modifications in the rates of division and commutation price. The ryots had gradually succeeded in reducing their payments considerably before the short period of Muhammadan rule (1773–6); but the iron hand of Muhammad Alī succeeded in exacting a larger land revenue than has, as far as we know, ever been obtained before or since. He altered the system by demanding a specified share, not of the estimated produce or grain standard, but of the actual harvest. The restored Marāthās tried to retain this system, but were compelled by popular resistance to return to the old grain standard. From 1781 to the cession to the English a new *pathak* system was introduced by leasing the revenue of one or more villages to farmers (*pathakdārs*), with the object of encouraging cultivation after the desolating effects of Haidar Alī's invasion.

This was for a time successful in its object, but quickly became a source of abuse, and was abolished as soon as the British obtained the country. The latter began by reviving Muhammad Alī's system (1800–4), in order to gather information about the real productive power of the land, and then levied money rents imposed in gross on the 'wet' lands of the whole village on leases of varying lengths till 1822–3. In that year the productive value of the 'wet' lands in each village was elaborately recalculated and a money assessment was thereby fixed on each village, which was to vary with considerable variations in the price of grain. This was called the *olungu* settlement, and it was extended to nearly the whole of the District, some villages being permitted to pay a grain rent on the old Marāthā system and some to pay the value of a share of the actual harvest. It was followed in 1828–30 by the *mottamfaisal* settlement, which was accompanied by a survey and was intended to resemble the scientific *ryotwāri* settlements of other Districts. In effect, however, it consisted only in a modification of the *olungu* assessments, together with a rule that whatever changes there might be in the price of grain the new assessments were not to vary. The assessments were also distributed in a few villages among the actual fields. This settlement was at first applied only to a part of the District, the rest remaining under the *olungu*; but it was extended to all but a few villages of exceptional character in 1859. The *olungu* ryots were at that time at a great disadvantage owing to the high prices, and gladly acquiesced in the change. *Pattas* (title-deeds) to individual ryots were first given in 1865, and from that date the revenue system of the District hardly differed in principle from that found elsewhere. Meanwhile varying policies had been adopted in the administration of the less important 'dry' lands; but both 'wet' and 'dry' were brought into line with the rest of the Presidency by the new settlement of 1894. As a preliminary to this settlement a survey commenced in 1883, by which accurate measurements of the fields were first obtained. The survey disclosed that the actual area under cultivation was 5 per cent. more than that shown in the accounts; and the settlement enhanced the total revenue by 33 per cent., or about 15½ lakhs of rupees. The present average assessment per acre on dry land is Rs. 1–7–8 (maximum, Rs. 7; minimum, 4 annas), that on 'wet' land in the delta Rs. 7 (maximum, Rs. 14; minimum, Rs. 3), and in non-deltaic tracts Rs. 3–6–11 (maximum Rs. 7; minimum, Rs. 3) The revenue from land and the total

revenue in recent years are given below, in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	49,97	53,11	70,47	68,25
Total revenue . .	69,76	76,51	99,48	104,92

Local boards.

There are five municipalities in the District: namely, Tanjore city, Kumbakonam, Negapatam, Māyavaram, and Mannārgudi. Beyond municipal limits local affairs are managed by the District board and the six *tāluk* boards of Tanjore, Kumbakonam, Negapatam, Māyavaram, Mannārgudi, and Pattukkottai, the charge of each of the latter being conterminous with one of the administrative subdivisions already mentioned. The total expenditure of these boards in 1903–4 was about 15 lakhs, the principal item being the District board railway and its extension, on which 7 lakhs was spent. Apart from the municipalities, nineteen groups of villages have been constituted Unions, administered by *panchāyats* under the control and supervision of the *tāluk* boards.

Police and jails.

The control of the police is vested in the District Superintendent at Tanjore, an Assistant Superintendent at Negapatam being in immediate charge of the five southern *tāluks*. The force numbers 1,184 constables, working in 75 stations under 18 inspectors. The reserve police at Tanjore city number 96 men. There are also 2,013 rural police. The District jail is at Tanjore city, and 18 subsidiary jails have accommodation for 358 prisoners.

Education.

According to the Census of 1901, Tanjore District stands next to Madras city in regard to literacy, 10·1 per cent. of the population (20·3 per cent. of the males and 0·9 per cent. of the females) being able to read and write. There is not much difference among the various *tāluks* in this respect, except that Pattukkottai is far behind the others. The total number of pupils under instruction in 1880–1 was 29,125; in 1890–1, 47,670; in 1900–1, 61,390; and in 1903–4, 70,938. On March 31, 1904, the District contained 1,182 primary schools, 78 secondary and 7 special schools, besides 3 training-schools for masters and 3 Arts colleges. The girls in these numbered 8,092. There were, besides, 585 private schools, 52 of these being classed as advanced, with 13,334 pupils, of whom 1,302 were girls. Of the 1,273 institutions classed as public, 11 were managed by the Educational department, 153 by local boards, and 27 by municipalities,

while 596 were aided from public funds, and 486 were unaided but conformed to the rules of the department. The large majority of pupils are in primary classes; but the number who have advanced beyond that stage is unusually large, the District in this respect, as in education generally, being in advance of all others except Madras city. Of the male population of school-going age 25 per cent. were in the primary stage of instruction, and of the female population of the same age 4 per cent. Among Musalmāns (including those at Korān schools), the corresponding percentages were 99 and 13. There are 158 special schools for Panchamas in the District, with 4,114 Panchama pupils of both sexes. The Arts Colleges are the Government College at KUMBAKONAM, St. Peter's College at TANJORE, and the Findlay College at MANNĀRGUDI. The total expenditure on education in 1903-4 was Rs. 5,22,000, of which Rs. 2,53,000 was derived from fees. Of the total, Rs. 2,43,000 (47 per cent.) was devoted to primary education.

Hospitals and dispensaries. Sixteen hospitals and 22 dispensaries, with accommodation for 398 in-patients, are maintained by the local boards and municipalities. A medical training-school is attached to the hospital at Tanjore. In 1903 the number of cases treated was 411,000, of which 5,200 were in-patients, and 17,000 operations were performed. The expenditure was Rs. 87,000, the greater part of which was met from Local and municipal funds.

Vaccination. In 1903-4 the number of persons successfully vaccinated was 34 per thousand of the population. Vaccination is not compulsory except in the five municipalities.

[F. R. Hemingway, *District Gazetteer*, 1906.]

Māyavaram Subdivision.—Subdivision of Tanjore District, Madras, consisting of the *tāluks* of MĀYAVARAM and SHIYĀLI.

Māyavaram Tāluk.—Coast *tāluk* in the north-east of Tanjore District, Madras, lying between 10° 58′ and 11° 15′ N. and 79° 31′ and 79° 52′ E., with an area of 283 square miles. The population in 1901 was 247,019, compared with 244,835 in 1891. In density it stands sixth of all the *tāluks* in the Presidency, this being due to its great agricultural advantages. It is situated wholly in the delta of the CAUVERY river, and more than 99 per cent. of the arable land is under occupation. Moreover, as it lies near the sea it receives as much as from 50 to 53 inches of rain. Most of the land is irrigated, and on this rice is usually grown, though ground-nuts and gingelly

are also raised in fair quantities. MĀYAVARAM town, which is the head-quarters of the *tāluk*, is a municipality with a population of 24,276. The old Danish settlement of TRANQUEBAR, which lies 18 miles south-east and is now a declining port, has a population (inclusive of its suburb Poraiyār) of 13,142. Besides these two towns, there are 186 villages in the *tāluk*. The demand for land revenue and cesses amounted in 1903-4 to Rs. 8,88,000.

Shiyāli Tāluk.—North-eastern *tāluk* of Tanjore District, Madras, lying between 11° 8′ and 11° 25′ N. and 79° 39′ and 79° 52′ E., with an area of 171 square miles. Its boundaries are the Coleroon, the sea, and the Māyavaram *tāluk*. Including the head-quarters, SHIYĀLI (population, 9,722), the villages number only 97. The population fell from 119,803 in 1891 to 116,563 in 1901, and includes unusually few Muhammadans or Christians. The demand for land revenue and cesses amounted in 1903–4 to Rs. 4,06,000. Being situated in the delta of the Cauvery river, Shiyāli contains much more 'wet' land than 'dry'; but this is generally not of the best kind, because the irrigation channels have deposited most of their fertilizing silt before they reach land which extends so far towards the sea. The Coleroon channels from the Lower Anicut give a better deposit, and some of these run through the *tāluk*. Its position on the coast results in its receiving the large rainfall of 54 inches, and agriculturally it is prosperous on the whole, though nearly 20 per cent. of the cultivable area is unoccupied.

Kumbakonam Tāluk.—Inland *tāluk* and subdivision of Tanjore District, Madras, lying on its northern border between 10° 47′ and 11° 11′ N. and 79° 7′ and 79° 34′ E., with an area of 342 square miles. The population fell from 377,523 in 1891 to 375,031 in 1901; but it is still the most densely peopled *tāluk* in the District or (with three exceptions) in the Presidency, supporting 1,097 persons per square mile. The most important town is KUMBAKONAM (population, 59,673), the head-quarters, and 6 miles east of this is TIRUVADAMARUDŪR (11,237), famous for its temple. The number of villages is 307. The demand for land revenue and cesses amounted in 1903–4 to Rs. 13,17,000. Being situated in the most fertile part of the CAUVERY delta, the greater part of its soil is alluvial and the rest black soil, and it is an exceptionally rich area. It shares with Nannilam the characteristic of possessing far more large landholders than any of the other *tāluks* in Tanjore, and the rent of the average

holding is unusually high. About 47 per cent. of the 'wet' fields are assessed at Rs. 9 or over per acre, and 96 per cent. of the 'dry' fields at Rs. 2 or more. The chief agricultural products are rice, plantains, and betel leaves, which are all largely exported; and the chief industries are the brass and bell-metal work and the silk- and cotton-weaving of Kumbakonam town.

Negapatam Subdivision.—Subdivision of Tanjore District, Madras, consisting of the NEGAPATAM and NANNILAM *tāluks*.

Negapatam Tāluk.—Coast *tāluk* of Tanjore District, Madras, lying between 10° 32′ and 10° 50′ N. and 79° 34′ and 79° 51′ E., with an area of 240 square miles. The population fell from 220,165 in 1891 to 217,607 in 1901; but the *tāluk* still stands second in the District and fifth in the Presidency in regard to density, which is 907 persons per square mile. The *tāluk* contains proportionately more educated people than any other in the District; and it owes this characteristic and its general importance to NEGAPATAM town (population, 57,190), the head-quarters, which is a large municipality and seaport. The only other considerable town is TIRUVALŪR (15,436), noted for its temple and the idol car belonging thereto. The number of villages is 189. The demand for land revenue and cesses amounted in 1903-4 to Rs. 5,75,000. Although it lies within the CAUVERY delta, the south-easternmost portions are beyond the irrigation system which depends upon that river. It contains no alluvial soil and the land is not of a very high class.

Nannilam Tāluk.—Eastern *tāluk* of Tanjore District, Madras, lying between 10° 44′ and 11° 1′ N. and 79° 27′ and 79° 51′ E., with an area of 293 square miles. The population was 214,788 in 1901, compared with 216,118 in 1891. NANNILAM town, the head-quarters, has a population (1901) of 6,727, and KUDAVĀSAL, a deputy-*tahsīldār's* station, 5,419. The number of villages is 242. The demand for land revenue and cesses amounted in 1903-4 to Rs. 11,33,000. The *tāluk* is situated entirely within the rich delta of the CAUVERY river and is a singularly prosperous tract. The land revenue averages as much as Rs. 4-13-3 per head, and is the highest in any *tāluk* in the District, while the average holding pays an assessment of Rs. 35, or more than in any other but Shiyāli, and there are more large landowners than in any other *tāluk*. The rainfall is good (44 to 46 inches annually), more than half the soil is alluvial, and by far the larger portion of the land is irrigated.

Tanjore Tāluk.—Western *tāluk* and subdivision of Tanjore District, Madras, lying between 10° 26′ and 10° 55′ N. and 78° 47′ and 79° 22′ E., with an area of 689 square miles. The population in 1901 was 407,039, compared with 410,447 in 1891. There are 362 villages and four considerable towns: TANJORE (population, 57,870), the head-quarters of both the *tāluk* and the District; the sacred town of TIRUVĀDI (7,821); VALLAM, where the Collector resides (7,590); and AYYAMPETTAI (9,454), famous for its carpets and mats. The demand for land revenue and cesses amounted in 1903-4 to Rs. 10,16,000. The *tāluk* differs from others in the District in the large number of the thief-caste Kallans it contains. It is divisible into two well-marked sections, the first including much of the apex of the CAUVERY delta, and the second running up in the south and west to dry uplands resembling those of the Pattukkottai *tāluk*. These two tracts are sharply contrasted, and the *tāluk* contains some of the best land in the District and also large tracts of the worst. There is more 'dry' land than irrigated, and 47 per cent. of the former is assessed at R. 1 an acre or less. Rice is more widely grown even here than any other crop; but a large area is under *cambu*, *rāgi*, ground-nuts, and red gram, the last of which is an unusual grain in this District.

Mannārgudi Subdivision.—Subdivision of Tanjore District, Madras, consisting of the *tāluks* of MANNĀRGUDI and TIRUTTURAIPPŪNDI.

Mannārgudi Tāluk.—Central *tāluk* of Tanjore District, Madras, lying between 10° 26′ and 10° 48′ N. and 79° 19′ and 79° 38′ E., with an area of 301 square miles. The population in 1901 was 188,107; and this has remained practically stationary since 1891, when it was 188,112. It contains 193 villages, besides the municipal town of MANNĀRGUDI (population, 20,449), the head-quarters. The demand for land revenue and cesses in 1903-4 amounted to Rs. 6,28,000. The south-western part of the *tāluk* is unirrigated, while the remainder lies within the CAUVERY delta, though it contains no alluvial soil.

Tirutturaippūndi Tāluk.—Coast *tāluk* in the south-east of Tanjore District, Madras, lying between 10° 16′ and 10° 40′ N. and 79° 28′ and 79° 52′ E., with an area of 485 square miles. The population in 1901 was 182,981, compared with 179,485 in 1891. The *tāluk* contains 143 villages, besides three towns: TIRUTTURAIPPŪNDI (population, 5,400), the head-quarters; VEDĀRANNIYAM (14,138), at the north-eastern end of the great salt swamp of that name, containing a large salt

factory. It is connected with Negapatam by the Vedāranniyam Canal. About 10 miles south of it is POINT CALIMERE. MUTTUPET (population, 9,099), to the south-west on the Koraiyār river, has all the advantages of a port, although it stands about 6½ miles from the mouth of the river. The demand for land revenue and cesses amounted in 1903–4 to Rs. 5,09,000. Part of the *tāluk* is in the CAUVERY delta, but it contains no alluvial soil and the land is generally of an inferior kind. Half of the 'dry' fields are assessed at Rs. 1–4–0 an acre or less, and the *tāluk* is a poor tract compared with most of the others in this District. Education is also backward and the population is sparse. Tobacco and coco-nuts are largely grown, and the latter, and also rice, are exported in considerable quantities.

Pattukkottai Tāluk.—Southern *tāluk* and subdivision of Tanjore District, Madras, bordering on Palk Strait, and lying between 9° 49′ and 10° 35 N. and 78° 55′ and 79° 32′ E., with an area of 906 square miles. The population in 1901 was 295,894, compared with 271,626 in 1891, showing an increase in the decade of early 9 per cent., due to the influx of labourers for the extension of the District board railway recently under construction. PATTUKKOTTAI Town, the head-quarters, has a population of 7,504, and ADIRĀMPATNAM, a small port, 10,494. The number of villages is 792. The demand for land revenue and cesses in 1903–4 amounted to Rs. 2,97,000. In several ways it forms a striking contrast to the other *tāluks* of the District, since practically no part of it is within reach of the CAUVERY. The greater portion is 'dry' land, the small 'wet' area within it being watered by tanks and wells; and the soil is nearly all of a red ferruginous variety which forms arable land of inferior quality. Four-fifths of the total area is either *zamīndāri* or *ināam*, a further point of contrast to the rest of the District; but in the remainder the percentage of unoccupied land is higher, and the incidence of the assessment per head and the rent of the average holding are lower, than in any other *tāluk*. Pattukkottai is the most backward tract in Tanjore in point of education, and, though the largest of the *tāluks*, is the least densely peopled.

Adirāmpatnam.—Town and port in the Pattukkottai *tāluk* of Tanjore District, Madras, situated in 10° 20′ N. and 79° 23′ E., with a station on the District board railway. It is called after Adivīra Rāman, the Pāndya king (1562–1610). Population (1901), 10,494. It is the inmost and most protected point in the bay formed by the southern seaboard of the Tirutturaippūndi *tāluk* and the eastern seaboard of Pattuk-

kottai. A brisk trade is carried on with Ceylon; rice and coco-nuts are the principal exports, and gunny bags, areca-nut, grain, and treasure the chief imports. The Musalmān tribe of Labbais, who are active traders, are a numerous community in the place. There is a salt factory here, and also an old Siva temple containing inscriptions.

Ammapatam.—Port in the Pattukkottai *tāluk* of Tanjore District, Madras, situated in 10° 1′ N. and 79° 15′ E. Population (1901), 3,915. Its trade is principally with Ceylon, and rice and live-stock are the chief exports, the largest import being unhusked rice. Coolies for the Ceylon tea plantations travel regularly from here twice a week.

Arantāngi.—Head-quarters of a deputy-*tahsīldār* and terminus of the District board railway, in the Pattukkotai *tāluk* of Tanjore District, Madras, situated in 10° 11′ N. and 70° 0′ E. Population (1901), 2,936. Laterite is found in large quantities in the neighbourhood and is much used for housebuilding. Lace and silk cloths are made here, and fabrics are dyed and exported to Rangoon and elsewhere. Arantāngi played a conspicuous part in the early history of the District. It was taken in the fifteenth century from the ruler of Tanjore by the chief of RĀMNĀD, who was a general of the Pāndya monarch, and was annexed to the dominions of the latter. In the seventeenth century it once more belonged to Tanjore, but about 1646 was again wrested from that State by the Rāmnād chief Raghunātha Tevan. Restored by treaty, it was again captured when war broke out afresh in 1698, and early in the eighteenth century was governed by the son of the Rāmnād ruler. The fortress subsequently changed hands many times, the Tanjore Rājā finally occupying it in 1749. There are ancient inscriptions in the Siva temple and inside the fort.

Ayyampettai.—Town in the *tāluk* and District of Tanjore, Madras, situated in 10° 54′ N. and 79° 12′ E., 11 miles north-east of Tanjore city, with a station on the main line of the South Indian Railway. Population (1901), 9,454. It is one of the chief seats of weaving in the District. Silk cloths, carpets of cotton, wool, and silk, and mats made of rushes are largely manufactured, and block-printing of chintzes is carried on to a small extent. There is a particular variety of cloth called *kuttuni* for which Ayyampettai is famous. The number of weavers is, however, very small now as compared with former days.

Calimere, Point (the *Calligicum* of Ptolemy).—A low promontory in the Tirutturaippūndi *tāluk* of Tanjore District,

Madras, situated in 10° 18′ N. and 79° 51′ E., 40 miles from Point Pedro in Ceylon. A lighthouse was erected on it in 1902. Inland stretches a 'reserved' forest extending over 6½ square miles, where antelope, spotted deer, and wild hog are to be met with. Ponies are bred in the neighbourhood in small numbers, and tobacco is largely grown. To bathe in the sea at Point Calimere is considered sacred by the Hindus, and the place has a temple which is an object of pilgrimage. The promontory was once used as a sanitarium, but it is now said to be feverish from April to June.

Coleroon (*Kollidam*)—Northern arm of the CAUVERY, which branches off from the main stream about 9 miles west of Trichinopoly. For 17 miles it runs parallel to the Cauvery, and then turns towards and very nearly reunites with it. The island thus formed is called the island of SRĪRANGAM, and lies in Trichinopoly District. At the lower end of the island the Coleroon takes a north-easterly course, skirts the District of Tanjore on the north, and falls into the sea near Devikottai. The waters of the Coleroon are largely utilized for irrigation. Across the head, where it branches from the Cauvery, stands the Upper Anicut, a dam constructed between 1836 and 1838 to prevent the Coleroon, which runs in a lower bed than the Cauvery, from abstracting too much of the water, and so injuring the irrigation in Tanjore dependent on the main stream. The Grand Anicut, built by the Chola kings, a few miles lower down at the point where the Cauvery and Coleroon nearly meet again, serves a similar purpose. The object of these works is noticed at greater length in the article on the CAUVERY. About 70 miles below the Upper Anicut, the Lower Anicut again dams up the Coleroon, for the purpose of providing irrigation in South Arcot District and a portion of Tanjore. The trunk road from Kumbakonam to Madras passes over this dam. The Vadavār and North Rājā channels lead from it into South Arcot, while the South Rājā channel turns into Tanjore. The Lower Anicut system in 1903–4 irrigated 134 square miles in South Arcot, yielding a revenue of more than 4 lakhs, and 37 square miles in Tanjore, the revenue from which was nearly another lakh. The South Indian Railway crosses the river about 10 miles above its mouth by a girder bridge. A few yards higher up, a masonry bridge until recently carried one of the main roads. Half of the piers fell during the floods of November, 1903, and at present a ferry is supplying its place. The Coleroon is navigable by light craft for a few miles from its mouth, and

is used to a small extent for the export of rice. It is altogether 94 miles in length, and drains an area estimated at 1,404 square miles.

Devikottai (*Dīvu*, 'island,' and *kottai*, 'fort').—A ruined fort at the mouth of the Coleroon river in the Shiyāli *tāluk* of Tanjore District, Madras, situated in 11° 22′ N. and 79° 48′ E. It was captured by the East India Company in 1749 from Pratāp Singh, the Rājā of Tanjore, after two hazardous expeditions from Fort St. David, undertaken at the instance of Sayājī, a deposed Rājā, and was thus the first British possession in India obtained by conquest. The first expedition, under Captain Cope, proved unsuccessful owing to various mischances. On the second occasion a larger force under Major Stringer Lawrence effected the capture of the place. In the course of the siege Clive, then a lieutenant, had a narrow escape while leading the attack on the breach. The fort was a mile in circumference, with walls 18 feet high. No factory was established at the spot, and the fort was eventually abandoned on the approach of the French in 1758. The French in turn evacuated it after Eyre Coote's victory at Wandiwāsh, and it was regarrisoned by British troops in 1760. It has been almost completely destroyed by the floods of the Coleroon.

Kudavāsal (*Kudam*, 'pot,' and *vāsal*, 'entrance').—Town in the Nannilam *tāluk* of Tanjore District, Madras, situated in 10° 52′ N. and 79° 29′ E. Population (1901), 5,419. It is a deputy-*tahsīldār's* station. Silk cloths for women are woven here. Kudavāsal and Kumbakonam are supposed to have a legendary connexion, both names being said to be derived from the Tamil word for a pot. It is declared that the mouth of a pot of nectar carried by Garuda, the celestial kite who is the vehicle of the god Vishnu, fell at Kudavāsal and another portion at Kumbakonam.

Kumbakonam Town (Sanskrit *kumbha*, 'water-pot,' and *ghona*, 'nose'; old Tamil *kudandai*).—Head-quarters of the *tāluk* of the same name in Tanjore District, Madras, situated in 10° 58′ N. and 79° 22′ E., on the banks of the Cauvery, with a station on the main line of the South Indian Railway, 194 miles from Madras. The population in 1871 was 44,444; in 1881, 50,098; in 1891, 54,307; and in 1901, 59,673. It has thus been steadily increasing in size, and is now the sixth largest town in the Presidency. The total in 1901 included 2,183 Musalmāns, 1,272 Christians, and 87 Jains, the remainder being Hindus.

The town is one of the oldest in Southern India. It has been identified with the Malaikūrram which became the capital of the CHOLA dynasty about the seventh century. It has always remained a stronghold of Brāhmanism and Brāhmanical culture. A *math* (religious house), founded by the great Sankarāchārya, contains a valuable library of Sanskrit manuscripts. Many of its shrines bear old inscriptions. The Nāgeswara temple is so constructed that on three days in the year the sun's rays penetrate through the openings in the *gopuram* (tower) and fall on the idol, which is interpreted as an act of worship by the sun. The Sārangapāni temple has a *gopuram* richly ornamented with figures, a well-painted ceiling, and two large and elaborate festival cars of carved wood. One of the shrines in the town is dedicated to Brahmā, a deity who has very few temples in his honour. The Mahāmagham festival once in twelve years attracts an immense concourse of visitors from all parts of India. It is the popular belief that on this occasion the Mahāmagham tank receives a direct supply of water from the Ganges by underground ways. The last festival of this kind took place in 1897.

In 1854 a provincial English school was started in Kumbakonam by Government. It was made a second-grade college in 1864, advanced classes being added three years later, and it was affiliated to the Madras University in 1877, the high school classes being abolished in 1881. The college has long maintained a high reputation for efficiency, but there is a growing tendency on the part of students to prefer the colleges at Madras. The average attendance in 1904 was 175. There are two English high schools, a Sanskrit high school, and a Vedic school maintained by private agency, besides a technical institute.

The chief manufactures are brass, bronze, copper, and lead vessels, silk and cotton cloths, sugar, indigo, and pottery. The metal-work is the best known of these. The silk industry, though said to be declining, is still considerable, employing as many as 2,000 looms. Cotton-weaving has fallen into insignificance of late years. The productions of the town are exported to other districts by rail, and the place is also a centre for the collection and export of the locally grown rice, ground-nuts, and oilseeds.

A District Court was held at Kumbakonam from 1806 to 1863, and a Sub-Judge and a divisional officer are now stationed there. It is also the head-quarters of a Roman Catholic bishop of the French mission.

Kumbakonam was made a municipality in 1866. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 85,000 and Rs. 92,000 respectively. The expenditure includes part of a loan and grant from Government, amounting to about a lakh, which was utilized in constructing drains in some of the streets. A further sum of Rs. 25,000 has recently been allotted for the same purpose. A scheme for supplying the town with water at an estimated cost of Rs. 4,05,000 has been approved by the Sanitary Board, but has been found to be beyond the resources of the municipality. In 1903–4 the income was Rs. 91,400, including house and land taxes (Rs. 36,000), tolls (Rs. 16,700), animal and vehicle tax (Rs. 7,800), and scavenging and other fees (Rs. 7,000); while the chief items of expenditure were conservancy (Rs. 28,000), hospitals and dispensaries (Rs. 8,000), roads and buildings (Rs. 15,000), and education (Rs. 8,000), out of a total of Rs. 81,500. The municipal hospital contains seventy-two beds.

Mannārgudi Town (also called *Mannārkovil* or *Rājā Mannārkovil*).—Head-quarters of the *tāluk* of the same name in Tanjore District, Madras, situated in 10° 40′ N. and 79° 27′ E., on the bank of the Pāmaniyār river, 9 miles south of the railway station of Nīdāmangalam. The population in 1901 was 20,449, of whom 651 were Musalmāns, 540 Christians, and 153 Jains, all the rest being Hindus. This is one of the centres of the Wesleyan mission, which maintains a second-grade college, called the Findlay College, affiliated to the Madras University in 1898. The average attendance in the advanced classes during 1903–4 was 58 and in the lower classes 533. In addition, a high school is maintained by private agency. Mannārgudi was constituted a municipality in 1866. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 27,000, and in 1903–4 amounted to Rs. 29,000. The chief sources of income are tolls and house and land taxes. A channel from the Vadavār, about 12 miles long, supplies twenty-two tanks in the town with good water. Mannārgudi is noted for the manufacture of metal ware and cloths, and exports rice in large quantities. Of the many temples in the town, the most important is that to Rājagopālaswāmi, which was founded by Kulottunga Chola I in the eleventh century. Two other shrines bear Chola names and inscriptions of Chola, Pāndya, and Hoysala kings. Mannārgudi itself was formerly called Rājādhirājā Chaturvedimangalam, obviously a name of Chola origin. An old Jain temple stands

in the town, and a mile to the west is a ruined fort said to have been built by a Hoysala king.

Māyavaram Town (*Māyūram*).—Head-quarters of the *tāluk* of the same name and the station of a Deputy-Collector, Tanjore District, Madras, situated in 11° 6′ N. and 79° 39′ E., on the banks of the Cauvery, and at the junction of the South Indian Railway main line with the District board railway. Population (1901), 24,276. The town is held particularly sacred by Hindus. During the Tulā Cauvery festival (October and November) pilgrims gather from all parts of the Presidency to bathe in the holy river simultaneously with the idol of the local shrine. A large Vishnu temple stands on the northern bank of the Cauvery in Tiruvilandūr. The principal shrine, dedicated to Mayūranāthaswāmi, is a mile to the south of the river. Here Pārvatī is said to have worshipped Siva in the form of a peacock (*mayūra*), and the name of the town is supposed to have been derived from this incident. Kornād, a suburb of Māyavaram, has long been famous as a weaving centre. The cloths woven here are worn by women of the higher classes throughout India. They are made of a mixture of silk and cotton thread, and are dyed in durable dark blue, red, and other colours. The industry is not prosperous, owing to the inability of the vegetable dyes used to hold their own against imported mineral dyes; and with its decline Māyavaram is tending to become a mere market for agricultural produce. The town was constituted a municipality in 1866. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 39,000. In 1903–4 the income, most of which was derived from school fees and house and land taxes, was Rs. 43,200, and the expenditure was Rs. 42,300. The municipal high school is a flourishing institution, and the fees derived from it now amount to more than a third of the total income of the municipality. Sanitation is hindered by the fact that the place lies low and has no proper drainage.

Muttupet.—Town in the Tirutturaippūndi *tāluk* of Tanjore District, Madras, situated in 10° 24′ N. and 79° 30′ E., with a station on the District board railway. Population (1901), 9,099. It is about 6½ miles from the sea, but communicates with it by the navigable river Koraiyār, a branch of the Cauvery. Possessing the advantage of a protected bay where native craft can moor during bad weather, the town carries on an active trade with Ceylon all the year round, the chief export being rice.

Nannilam Town.—Head-quarters of the *tāluk* of the same name in Tanjore District, Madras, situated in 10° 53′ N. and 79° 36′ E. Population (1901), 6,727. Weaving is practised on a small scale. The station of this name on the District board railway is about 3 miles from the town. There is an old temple dedicated to Madhuvaneswaraswāmi, or 'the lord of the honey-forest,' and it is pointed out as curious that the wild bees still make their nests in this.

Negapatam Town (Ptolemy's *Nigamos* and Rashīd-ud-dīn's *Malifattan*).—Head-quarters of the *tāluk* of the same name and seaport in Tanjore District, Madras, situated in 10° 46′ N. and 79° 51′ E., 212 miles from Madras by the South Indian Railway and its branch the District board line. The population in 1871 was 48,525; in 1881, 53,855; in 1891, 59,221; and in 1901, 57,190. It now ranks as the ninth largest town in the Presidency. In 1901 Hindus formed nearly 68 per cent. of the population, Musalmāns 22 per cent., and Christians 10 per cent. Nagore, which stands to the north within the municipal limits, is a stronghold of the Marakkāyan traders, a mixed class of Muhammadans. Negapatam was in very ancient times the chief city of the little-known Nāga people, from whom its name (*Nāgapattanam*) is apparently derived. Later it became one of the earliest settlements of the Portuguese on the east coast, and was called by them the city of Choramandel. It was also one of the earliest centres of the Portuguese Christian missions. It was captured by the Dutch in 1660, and was the chief of their Indian possessions till 1781. Meanwhile Nagore had been sold to the Dutch by the Rājā of Tanjore in 1773, but was soon afterwards wrested from them by the Nawāb of the Carnatic with the aid of the English. It was afterwards restored to the Rājā, who made a grant of it to the Company in 1776. During the war of 1780–1 Haidar Alī of Mysore ceded the place to the Dutch, with the result that an expedition from Madras under Sir Hector Munro captured both Nagore and Negapatam in November, 1781. When in 1799 the Tanjore kingdom came into British hands by treaty, Negapatam was made the District head-quarters and remained so until 1845. A divisional officer, an Executive Engineer, a Sub-Judge, an Assistant Commissioner of Separate Revenue, an Assistant Superintendent of police, and a Port officer are still stationed here. There are also a branch of the Bank of Madras and an agent for emigration to the Straits Settlements. The South Indian Railway has extensive workshops in the town, and two companies of their Volunteer Corps have their

head-quarters here. The place contains three high schools for boys, two of them being maintained by missionary bodies. Nagore possesses two Arabic schools, and there is another at Negapatam. Of the many temples only one is ancient. It is dedicated to Kāyārohanaswāmi, and is called Kāronam and occasionally Cholakulavallipattinam in the inscriptions of Rājārājā and other Chola kings. A stone tablet at a small temple records in Dutch that this pagoda was built in A.D. 1777 under the auspices of the Governor Reynier van Vlissingen. The Nagore *dargāh*, whose white minarets (one of them 90 feet high) are one of the best-known landmarks along the coast, was built over the tomb of the saint Mīrān Sāhib Makhan. The inscriptions on the tomb relate that it was built in eleven days by Pratāp Singh of Tanjore in Hijra 1171 (A.D. 1757). The Kandiri festival, one of the greatest Muhammadan festivals in Southern India, is celebrated here on the anniversary of the saint's death.

Negapatam and Nagore were incorporated as a single municipality in 1866. The receipts and expenditure during the ten years ending 1902-3 averaged Rs. 77,000 and Rs. 78,000 respectively. In 1903-4 the income was Rs. 76,000, the principal receipts being the house and land taxes (Rs. 27,000), the profession tax (Rs. 9,500), tolls (Rs. 8,000), and scavenging and other fees (Rs. 8,000). The total expenditure of Rs. 75,000 included conservancy (Rs. 29,000), hospitals and dispensaries (Rs. 7,000), and roads and buildings (Rs. 10,500). The municipal hospital, originally built by private subscriptions, contains forty-six beds. Schemes for drainage and water-supply have been framed at an estimated cost of Rs. 4,13,000 and Rs. 2,32,000 respectively. The latter project has had to be dropped for want of funds.

Until 1845 Negapatam was the chief port south of Madras; thereafter its trade declined for some time owing to the superior advantages of TRANQUEBAR, which in that year had become a British possession by purchase from Denmark. But the opening of the South Indian Railway to Negapatam in 1861 restored its trade. A lighthouse 80 feet high, which has recently been fitted with a revolving light, was erected in 1869. In 1876, however, the railway brought Tuticorin into touch with Madras city, and since then Negapatam has again declined in importance. The opening of the line to Kārikāl and up the north-eastern coast has still further contributed towards this result. The trade of Negapatam is now chiefly with Ceylon, Burma, and the Straits Settlements, and also to a very small extent with the United Kingdom and Spain.

Excluding coasting trade, the total imports in 1903–4 were valued at 21·3 lakhs, and the total exports at 65·7 lakhs. The chief imports were areca-nut (8·3 lakhs), gunny-bags, camphor, cotton piece-goods, and apparel. Among lesser imports may be mentioned skins, tobacco, miscellaneous provisions, sugar, wrought metals, gums and resins, wood and furniture. The principal exports were rice (22·3 lakhs), cotton piece-goods (6·8), live-stock, *ghī*, tobacco, cigars, turmeric, and skins. The minor exports were fruits and vegetables, chillies, sugar, and oil-cake. In 1903–4 the coasting trade consisted of imports to the value of 23·6 lakhs and exports to the value of 9·1 lakhs. Negapatam is an important centre of emigration to the Straits Settlements and Natal.

Pattukkottai Town.—Head-quarters of the *tāluk* of the same name in Tanjore District, Madras, situated in 10° 26′ N. and 79° 19′ E., with a station on the District board railway. Population (1901), 7,504. An inscription in the ruined fort relates that this building was erected by Vānāji Panditar in honour of Shāhji Mahārājā in A.D. 1686–7. In the western part of the town is an elaborately sculptured and ancient Siva temple of considerable size, containing many inscriptions. In 1815 Sarabhojī, the Rājā of Tanjore, erected a miniature fort and column, with an inscription in English to commemorate the triumph of the British arms and the downfall of Bonaparte. Brass vessels, mats, and coarse cotton cloths are manufactured.

Shiyāli Town (*Sīrgāli*).—Head-quarters of the *tāluk* of the same name in Tanjore District, Madras, situated in 11° 14′ N. and 79° 44′ E., with a station on the main line of the South Indian Railway. Population (1901), 9,722. It was the birthplace of the famous Tamil poet and saint Tirugnāna Sambandha, who lived in the first half of the seventh century. In the Siva temple there is a shrine dedicated to this saint, with a Chola inscription recording a gift. There are two high schools, one maintained by the Leipzig Evangelical Lutheran Mission and the other by a native gentleman. Shiyāli is noted for mats made of a kind of *Cyperus*. Cotton cloths are also woven of an inferior kind.

Tanjore City (*Tanjāvūr*).—Head-quarters of the *tāluk* and District of the same name in Madras, situated in 10° 47′ N. and 79° 8′ E., on the main line of the South Indian Railway, 218 miles from Madras and 226 from Tuticorin. The population in 1871 was 52,175; in 1881, 54,745; in 1891, 54,390; and in 1901, 57,870. Tanjore now ranks as

the eighth largest town in the Presidency. Eighty-five per cent. of the population are Hindus, there being only 3,600 Musalmāns, 4,796 Christians, and 154 Jains. Tanjore was successively the capital of the Chola, Naik, and Marāthā powers. It stood a siege by Chanda Sāhib and the French in 1749, and by the French under Lally in 1758, and was afterwards captured by Colonel Joseph Smith in 1773, though it was restored in 1776 to the Marāthā Rājā. In 1799, when Sarabhojī, the Rājā of Tanjore, ceded his territory to the British by treaty, he retained the town in his own hands. It lapsed to the British Government in 1855 on the death of his son Sivajī without heirs. Four surviving queens, besides other members of the family, still occupy the palace in the centre of the fort. There are two halls in this palace, known as the Marāthā and Naik Darbār Halls, in the latter of which stands a statue of Sarabhojī by Chantrey. The building also contains an armoury, and a library of 22,000 volumes in several Indian and European languages, principally Sanskrit.

Within the great fort, now dismantled, is a smaller erection called the Sivaganga fort. It encloses the sacred Sivaganga tank and the famous Brihadīswaraswāmi temple. The inscriptions on the walls of the latter ascribe its construction to the Chola king Rājārājā I in the eleventh century. It is built on a well-defined and stately plan, which was persevered with till its completion, an unusual feature in Dravidian temples. It consists of two courts, of which the first, originally devoted to minor shrines and residences, was converted into an arsenal by the French in 1772, and has not been reappropriated to sacred purposes. The temple proper stands in the second courtyard, surmounted by a tower 200 feet high. The carvings on this tower are all Vaishnavite, but everything in the courtyard, as well as the idol itself, is Saivite. Strangely enough, there is a figure on the northern side of the tower which appears to be that of a European, the popular explanation of which anachronism is that the eleventh-century architect foresaw the advent of the British. In front of the temple is a huge monolith representing Siva's bull Nandi, and behind it is a shrine dedicated to Subrahmanya, 'as exquisite a piece of decorative architecture as is to be found in the south of India.' The great temple contains a very large number of ancient inscriptions of the Chola and other dynasties. Most of these have been deciphered, and many have been published in the second volume of Dr. Hultzsch's *South Indian Inscriptions*.

Under the native dynasties, Tanjore was considered the home of the fine arts. It still produces skilful artisans. In metal-work and in the manufacture of musical instruments the place is perhaps unrivalled in the Presidency; and its silk-weaving, lace, embroidery, jewellery, pith-work, and artificial garlands have a deservedly high reputation.

Tanjore was made the District head-quarters in 1860, five years after it came into the hands of the British, and possesses the usual staff of officials. There is a District jail which will hold 333 prisoners, with room in its hospital and observation cells, respectively, for 15 and 19 more. The present town consists of the fort and two suburbs, Karantattāngudi in the north, where the Brāhman quarter is situated, and Mānambuchāvadi in the south-east, where Europeans reside. The Society for the Propagation of the Gospel, the Methodists, the Lutherans, and the Roman Catholics all have mission stations here. The first of these is the successor of the mission founded in 1778 by the famous Swartz, who resided chiefly in this town from that date to his death in 1798, and to whose memory a marble monument by Flaxman, representing Rājā Sarabhojī's last visit to the dying missionary, stands in the Swartz Church within the fort. Saint Peter's College, founded as an English school by Swartz in the eighteenth century, rose to be a second-grade college in 1864 and a first-grade college ten years later. It was affiliated to the University of Madras in 1880, and has an average attendance of 130 in the college classes and 238 in the lower classes. It has throughout been managed by the Society for the Propagation of the Gospel. There are also an English high school maintained by private agency, a training-school for teachers, and a technical institute.

Tanjore was constituted a municipality in 1866. The receipts and expenditure during the ten years ending 1902-3 averaged Rs. 1,33,000 and Rs. 1,34,000 respectively. In 1903-4 the income was Rs. 1,03,000, including the house and land taxes (Rs. 27,000), the vehicle and animal tax (Rs. 7,500), tolls (Rs. 17,000), water rate (Rs. 19,000), and markets and slaughter-houses (Rs. 11,500). The main heads of expenditure were water-supply (Rs. 20,000), conservancy (Rs. 21,500), roads and buildings (Rs. 10,700), and education (Rs. 11,000), out of a total of Rs. 96,000. The town is now supplied with water pumped from wells sunk in the bed of the Vennār. The works were opened in 1895 and cost about 3½ lakhs. The expenditure on water-supply for the succeeding eight years,

inclusive of extensions, averaged Rs. 26,600, and the receipts Rs. 15,900. A system of drainage for the fort was carried out in 1840 during the Rājā's time; and a scheme for the disposal of the sewage on a farm at a cost of Rs. 3,34,000 has been investigated, but is in abeyance for want of funds. The principal hospital in the town was founded and endowed by public subscription in 1880, and is under the management of the District board. It contains 144 beds, and has attached to it a medical school, the staff of which was recently reorganized and considerably strengthened.

Tirutturaippūndi Town.—Head-quarters of the *tāluk* of the same name in Tanjore District, Madras, situated in 10° 32′ N. and 79° 38′ E., on the Mulliyār river, with a station on the District board railway. Population (1901), 5,400. There is an old Siva temple, containing a number of inscriptions.

Tiruvadamarudūr (or Madhyārjunam).—Town in the Kumbakonam *tāluk* of Tanjore District, Madras, situated in 11° N. and 79° 27′ E., on the Vīrasolanār river, with a station on the main line of the South Indian Railway. Population (1901), 11,237. It contains a very old well-sculptured Siva temple, which is of considerable size and has a fine *gopuram* or tower. In this are a large number of Chola inscriptions and two grants of the Vijayanagar dynasty. The family of Amar Singh, who was deposed from the throne of Tanjore in 1798, resides here. It is the head-quarters of a deputy-*tahsīldār*.

Tiruvādi.—Town in the *tāluk* and District of Tanjore, Madras, situated in 10° 53′ N. and 79° 6′ E., 6 miles north of Tanjore town. Population (1901), 7,821. It was the head-quarters of a separate *tāluk* of the same name until 1860. A deputy-*tahsīldār* and a District Munsif are now stationed here. It is also called Tiruvaiyār (in Sanskrit *Panchanadam*), or 'the holy five rivers,' from the fact that the Coleroon, the Cauvery, the Kodamurutti, the Vettār, and the Vennār all run in nearly parallel courses within a distance of six miles from it. It is for this reason considered a particularly sacred place, and is one of the chief centres of Brāhmanism in the District. From the southern bank of the Cauvery its temples give it almost the appearance of a miniature Benares. Of a group of seven shrines locally known as Saptasthalam, that at Tiruvādi is the principal. During the great annual festival the gods from the other temples are brought to visit the deity in this. The concourse of pilgrims on this occasion is exceedingly large. There are many old inscriptions in the temple, more than forty of which have been transcribed by the Government Epigraphist.

All but four of these are of Chola origin; two belong to the Vijayanagar, one to the Pāndya, and one to the little-known Udaiyār dynasty. Tiruvādi contains a Sanskrit high school, under the management of the Tanjore *tāluk* board, with 100 boarders; and also a Vedic school and an English high school, both of which are maintained by native gentlemen.

Tiruvālūr.—Town in the Negapatam *tāluk* of Tanjore District, Madras, situated in 10° 46′ N. and 79° 39′ E., at the junction of the Tanjore-Negapatam branch of the South Indian Railway with the District board railway. Population (1901), 15,436. Until 1860 it was the head-quarters of a separate *tāluk*. At present a deputy-*tahsīldār* and a District Munsif are stationed here. A European firm owns a rice mill in the town, and a flourishing high school is maintained by the *tāluk* board. There is also a richly-endowed temple, which is largely attended by pilgrims during the annual festival in the hot season, the sacred car being the largest in the District. The temple is picturesquely situated on the eastern bank of a large square tank, which has fine flights of stone steps leading down to the water and a small island-temple in its centre. The shrine of Achaleswara contains inscriptions of the Chola kings Rājārājā and Rājenda, as well as some records of the later rulers of this dynasty, and of the Pāndyas.

Tranquebar (vernacular *Tarangampādi*, which would mean 'the village of the waves'; but *Sadanganpādi* according to an old inscription).—Town and port in the Māyavaram *tāluk* of Tanjore District, Madras, situated in 11° 2′ N. and 79° 52′ E., 18 miles north of Negapatam. Population (including its suburb Poraiyār) (1901), 13,142. Tranquebar first rose into importance as a Danish settlement, the Danish East India Company having in 1620 obtained a grant of land from the Rājā of Tanjore and built a fort here. In 1624 it passed to the king of Denmark. In the war of 1780–1 Haidar exacted a fine of Rs. 1,40,000 from the Danes for supplying arms to the Nawāb of Arcot. In 1801 Tranquebar was taken by the British, but was restored in 1814. It was finally purchased by the British in 1845 for 12½ lakhs of rupees.

In 1706 the first Protestant missionaries, Ziegenbalg and Plütschau, landed at Tranquebar and founded a mission under the auspices of king Frederick IV of Denmark. A church, one of the earliest Protestant places of worship in India, was built in 1718. In the eighteenth century the mission spread its influence over a great part of the Tamil country, but not long after Swartz left Tranquebar in 1762 it began to languish, and by 1820

had practically come to an end. In 1841, however, it was succeeded by the Dresden Society, or, as it was called later, the Leipzig Evangelical Lutheran Mission, which now maintains a training-school for teachers, an industrial school, and a printing press, besides boarding-schools for boys and girls. There is also an upper secondary school. Tranquebar was a busy port in Danish times. Under English rule it drew away the trade of Negapatam owing to its better anchorage, and continued to flourish until 1861, when the railway restored the trade to Negapatam. It is now of greatly diminished importance, and its trade consists chiefly of the export of rice on a small scale. It was the head-quarters of the Collector of Tanjore from 1845 to 1860, and of the District Judge from 1860 to 1884, with a short interval. A deputy-*tahsīldār* is now the chief officer. It is one of the healthiest spots in the District and has a quaint beauty of its own. The old citadel, called the Dansborg, for some time served as a jail, but is now in ruins. A small portion is, however, used as a customs office. The European bungalows are mostly within the fort, but the majority of the native population reside in Poraiyār, a mile inland.

Vallam.—Town in the *tāluk* and District of Tanjore, Madras, situated in 10° 43′ N. and 79° 5′ E., on a small plateau 7 miles south-west of Tanjore. Population (1901), 7,590. Vallam is one of the pleasantest and healthiest places in the District, and the usual residence of the Collector. It had formerly a strong fort, built presumably by the Naik Rājās in the sixteenth or seventeenth century, which was taken by the British under Colonel Joseph Smith on behalf of the Nawāb of Arcot in 1771, and remained in their occupation until its restoration to the Rājā of Tanjore in 1776. Few traces of the defences now survive, except the moat. A sacred tank within the fort is hewn in the solid rock and unusually deep. It is called *Vajratirtham* ('the diamond pool'), and the popular tradition is that it was dug by Indra. An old Siva temple by its side contains many inscriptions. The quartz crystals found in the neighbourhood, known as Vallam stones, are made into spectacles and ornaments. There are also extensive gravel quarries.

Vedāranniyam (Tamil *Tirumaraikkādu*).—Town in the Tirutturaippūndi *tāluk* of Tanjore District, Madras, situated in 10° 22′ N. and 79° 50′ E. Population (1901), 14,138. It is the head-quarters of a deputy-*tahsīldār*. The great Vedāranniyam salt swamp, which covers a tract about 30 miles long by 4 or 5 miles wide, lies to the west of the town. It is filled by

two periodical high tides which occur about full moon in May and June respectively. About 2 feet of water is retained by means of an earthen bank with sluices; as it evaporates, salt is formed in large translucent blocks. This is stored in the Government factory at Vedāranniyam, and conveyed thence to the dépôt at Negapatam by the VEDĀRANNIYAM CANAL.

Vedāranniyam Canal.—This canal, in Tanjore District, Madras, was constructed in 1869. Inclusive of its subsequent extension to the salt swamp south of Vedāranniyam, its total length from Negapatam to its southern end is $35\frac{1}{2}$ miles, made up of $13\frac{1}{4}$ miles of the already existing channels of the Adappār, Vellār, and Kaduvaiyār rivers, $10\frac{1}{4}$ miles of drainage streams intercepted in their passage down to the sea, and 12 miles of new cuts connecting these together. It was designed, and is chiefly used, for the transport of salt from the Vedāranniyam factory to the dépôt at Negapatam; but, owing to the absence of a good road between these two places, it is also resorted to for general traffic. The cost of the canal amounted to Rs. 1,34,000. It is maintained jointly by the Public Works department and the District board.

TRICHINOPOLY DISTRICT

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Trichinopoly District.—An inland District in the south of the Madras Presidency, lying between 10° 16′ and 11° 32′ N. and 78° 8′ and 79° 30′ E., with an area of 3,632 square miles. It takes its name from the famous city which is its administrative head-quarters. The word is popularly derived from Trisirāppalli, meaning the town of Trisira ('the three-headed'), a *rākshasa*, or demon, the brother of Rāvana, the villain of the Rāmāyana, who is said to have ruled the place. The District is bounded on the east by Tanjore, the dividing line for some distance being the Coleroon river; on the north by South Arcot and Salem; on the west by Coimbatore and Madura; and on the south by the State of Pudukkottai.

A small rambling range of hills called the PACHAIMALAIS ('green hills'), which extend into Salem District, lies in the north-western corner; and towards the southern and south-western borders the country is broken up by rocky hills covered for the most part with scrub jungle. But elsewhere the general character of the District is an undulating plain, divided east and west by the valley of the CAUVERY and dotted here and there with small hills, of which the great rock fort in TRICHINOPOLY CITY, the neighbouring Golden Rock near the Central jail, and Ratnagiri near Kulittalai are the principal examples.

The Cauvery is one of the chief natural features of the District. It runs across the centre from west to east, and at the holy island of SRĪRANGAM splits into two branches, of which the one retains the original name of Cauvery and the other is called the Coleroon. These are the most important rivers in the District, and receive the greater part of its drainage. In the north, a small area drains into the VELLĀR, which forms the northern boundary for some distance.

logy.

The eastern half of the more northern of the two portions into which Trichinopoly is divided by the alluvial valley of the Cauvery is occupied by sedimentary deposits; the western by Archaean gneisses and granites, mostly hornblendic. The southern of these two portions is formed of Archaean rocks, granites and gneisses, overlaid in the south-east corner of the Trichinopoly *tāluk* by a thin bed of conglomeratic laterite,

which has been carved by local denudation into a number of patches forming miniature plateaux. Crystalline limestone occurs in several places north and south of the Cauvery, the prevailing colours being light grey, white, pink (of great beauty), and bluish. Two great and generally rich beds of magnetic iron lie at the southern end of the Pachaimalais. Neither the limestone nor the iron has been worked, though the quantity available is large. The oldest of the sedimentary deposits referred to above are representatives of the Upper Gondwāna or Rājmahāl system, a formation remarkable for containing great quantities of plant remains of Jurassic age. The so-called plant-beds near Uttattūr in the Perambalūr *tāluk* contain numbers of these fossil plants. Their age is considered to be intermediate between the Rājmahāl beds proper and the Jubbulpore group of the Indian Jurassic rocks. An irregular area nearly 400 square miles in extent, lying between the Cauvery and the Vellār, is occupied by Cretaceous rocks, the fossils in which have excited much interest among scientists. The most noteworthy of the Cretaceous deposits are the coral-reef limestones near Uttattūr and the shell limestone of Garudamangalam, a very fine hard bluish-grey rock, in parts translucent and largely made up of beautifully preserved gasteropoda and lamellibranchiata, often retaining their original polish and sometimes their peculiar coloration. This is the so-called Trichinopoly marble, and is much valued for decorative purposes. Resting on the uppermost Cretaceous rocks on the eastern side of the District is an unfossiliferous gritty sandstone, very frequently ferruginous, which covers the greater part of the Udaiyārpālaiyam *tāluk*, and is itself very largely overlaid with red sands. In the lateritic sands near Nanniyūr, two palaeolithic implements have been found, one sharp-pointed, and the other oval. To the north of the same village is a bed of true flints, said to be unique in Southern India.

Botany.

The flora of the District presents no points of interest, resembling closely that of the other areas along the eastern side of the Peninsula. The growth on the Pachaimalais is of the drier deciduous type, characterized by the abundance of *Zizyphus* and *Terminalia*.

Fauna.

Leopards and bears are occasionally found in and about the Pachaimalais, but there is no other large game in the District. Snipe, teal, and duck are, however, plentiful.

Climate and temperature.

The Pachaimalai hills are malarious, but elsewhere the climate is on the whole unusually dry and, perhaps on this account, healthy for both natives and Europeans. It is also

more than usually hot. The annual mean temperature at Trichinopoly itself (84°) is higher than at any head-quarters town in the Presidency except TINNEVELLY, CUDDAPAH, and NELLORE.

Rainfall. The annual rainfall in the District as a whole averages 34 inches, of which 16 are received during the north-east monsoon, 12 during the south-west monsoon, and 5 in April and May. The fall in the northern *tāluks*, especially in Udaiyārpālaiyam and Perambalūr in the north-east corner, is heavier than in the south, averaging 39 inches against 31 in the latter. Few natural calamities have taken place. Cyclones occur but rarely. The country is not specially liable to scarcity, as the Cauvery and Coleroon, on which the greater portion of the irrigated lands are dependent, seldom fail. The chief danger to which the people are exposed is from the floods in these two rivers. These, especially when accompanied by heavy local rainfall, are apt to breach the embankments on either side of the river-beds and cause severe damage to crops. The banks are being gradually strengthened throughout.

History. The history of Trichinopoly goes back far into antiquity. The capital of the CHOLA kings, who are mentioned in the Asoka inscriptions of the third century B.C., and by Ptolemy in the second century A.D., was originally at Uraiyūr, now a suburb of Trichinopoly city, and in the eleventh century at GANGAIKONDAPURAM in the Udaiyārpālaiyam *tāluk*. The ruins of a splendid temple and tank are still standing at the latter place. About the middle of the thirteenth century the District passed under the Hoysala Ballālas of Dorasamudra and soon afterwards under the Pāndyas of Madura, who, in spite of occasional interruptions, continued in possession of it till the beginning of the fourteenth century, when it was overrun by the Muhammadans under Malik Kāfūr, the general of Alā-ud-dīn Khiljī of Delhi. About 1372 it became part of the rising Hindu empire of Vijayanagar, and during the sixteenth century, after the downfall of that dynasty, passed into the hands of the Naik rulers of MADURA. Viswanātha, the founder of this line, is said to have built the greater part of the fort and town of Trichinopoly; and about the middle of the seventeenth century Chokkanātha, another of the line, removed his capital from Madura to Trichinopoly and erected there the building known as the Nawāb's Palace—using, it is said, a great deal of the material of the celebrated palace built at Madura by his famous grandfather Tirumala Naik.

The last of the Naik rulers died childless in 1731, and the

subsequent disputes as to succession were taken advantage of by the Nawāb of Arcot. Chanda Sāhib, his Dīwān, seized Trichinopoly and treacherously imprisoned queen Mīnākshi, one of the claimants. She poisoned herself; and her rivals called in the Marāthās, who took Trichinopoly in 1741 and appointed Morāri Rao, the adventurous Marāthā ruler of Gooty, governor over the town. Two years later the Nizām-ul-mulk, Sūbahdār of the Deccan, invaded the Carnatic and Trichinopoly surrendered to him. He appointed Anwar-ud-dīn as Nawāb of the Carnatic in 1744, and from that date Trichinopoly passed under the nominal rule of the Nawābs of Arcot. During the Wars of the Carnatic, between 1749 and 1761, the famous rock fortress of Trichinopoly underwent more than one siege. On the first occasion (in 1751), Muhammad Alī, the son of Anwar-ud-dīn, and his allies the English were besieged by Chanda Sāhib, an aspirant to the Nawābship of the Carnatic, and his supporters the French. A number of engagements took place between the two parties, chiefly on the Srīrangam island and in the villages bordering on the old road from Trichinopoly to Madras, Clive taking a conspicuous part in the operations, and in the end Chanda Sāhib and the French were defeated.

The second siege occurred in 1753. Nanjarāj, the general of the Mysore army which had been helping the English and Muhammad Alī in the previous operations, claimed Trichinopoly as his reward, alleging that it had been promised him by a secret treaty with Muhammad Alī. His claim being disregarded, he laid siege to the place and attempted to reduce it by famine. Major Lawrence came to its relief. The French had meanwhile been greatly strengthened by reinforcements sent by Dupleix, and quitting Srīrangam they crossed the Cauvery and encamped on the plain close by the present Fakīr's Rock. Here they were attacked by Lawrence and defeated in the engagement which the historian Orme calls the battle of the Golden Rock. Lawrence proceeded to Tanjore to obtain reinforcements from the Marāthās. On his return he found that the French had blockaded the city on every side. He provoked them to a general engagement and defeated them again at the battle of the Sugar-loaf Rock (now called the Golden Rock), not far from the present Central jail.

When war broke out again in 1756, the French under D'Auteuil once again tried to take Trichinopoly. The vigilance of Captain Calliaud, who hurried to its relief by forced marches from Madura, frustrated their designs. Their last attempt

upon the Rock was in 1759, when a detachment sent by Lally occupied Srīrangam. Lally's defeat at Wandiwāsh upset his plans; and the fall of Pondicherry early in 1761, which established the success of the British arms in Southern India, and the Treaty of Paris in 1763, which recognized Muhammad Alī as Nawāb of the Carnatic and placed Trichinopoly under his government, ended the conflict between the two nations. In 1768 Haidar Alī of Mysore devastated the District, and on the renewal of the war in 1780 he invested its capital. His defeat at Porto Novo in the succeeding year compelled him to withdraw. The only other attempt upon the fort was made by his son and successor Tipū in 1790, but it ended in nothing.

In 1781 the Nawāb assigned the revenues of the Carnatic, including Trichinopoly, to the English; and civil officers, known as Superintendents of the Assigned Revenue, were for the first time appointed to administer them. In 1792 the assignment was surrendered to the Nawāb, but Trichinopoly continued to be commanded by British officers. In 1801 it was ceded to the British, with the rest of the Carnatic, by the Nawāb of Arcot.

Archaeology. Prehistoric kistvaens occur in the Perambalūr *tāluk*, in one of which, opened in 1897, were found pieces of human bones, a small polished earthen pot 6 inches in diameter, and the point of an iron sword. Some Roman coins have also been discovered. Buddhist images of stone exist in the Udaiyārpālaiyam, Kulittalai, Perambalūr, and Trichinopoly *tāluks*. The District is supposed to have been situated at the tri-junction of the territories of the PĀNDYA, Chola, and Kongu dynasties; and tradition places one of their boundaries in the extreme west along the river Karaipottānār (the name means 'the river that marks the boundary'), which falls into the Cauvery about 12 miles to the west of Musiri, and along a large earthen embankment which continues the line of the river southwards into the Kulittalai *tāluk* on the other side of the Cauvery. The hamlet of Palayasengadam in this *tāluk* is locally declared to have once been a Chola capital, the name being said to be a contraction of Palaya Jeyamkondacholapuram, or 'the old town of the victorious Chola.' An extensive ruined camp close by and a very perfect and well-constructed stone tank are pointed out in support of the tradition. The later Jeyamkondacholapuram is in the Udaiyārpālaiyam *tāluk*.

Of the temples of archaeological interest the most important are those on the Trichinopoly Rock and at Srīrangam (and Jambukeswaram), Gangaikondapuram, and Samayapuram,

while the most notable piece of civil architecture is the palace of the *zamīndār* of Udaiyārpālaiyam.

The District comprises 937 towns and villages. The population in 1871 was 1,200,408; in 1881, 1,215,033; in 1891, 1,372,717; and in 1901, 1,444,770. The increase during these thirty-six years has been at about the same rate as in the rest of the Presidency, namely between one-fifth and one-fourth, and Trichinopoly is now one of the half-dozen most densely peopled Districts in Madras. The very small advance between 1871 and 1881 was due to the great famine of 1876–8. The District is divided into the five *tāluks* of Kulittalai, Musiri, Perambalūr, Trichinopoly, and Udaiyārpālaiyam, statistical particulars of which in 1901 are appended:— The people.

Tāluk.	Area in square miles.	Number of		Population in 1901.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Udaiyārpālaiyam .	753	2	228	300,708	399	+ 3·5	14,384
Perambalūr . .	674	..	128	204,257	303	+ 4·7	8,022
Musiri . . .	762	1	156	294,383	386	+ 4·2	14,347
Kulittalai . .	901	..	229	263,331	292	+ 8.1	11,931
Trichinopoly .	542	2	191	382,091	705	+ 5·9	46,843
Total	3,632	5	932	1,444,770	398	+ 5·2	95,527

The head-quarters of the first of these are at Jeyamkondacholapuram, while those of the others are at the places from which they are named. The chief towns are the municipalities of TRICHINOPOLY (population, 104,721) and SRĪRANGAM (23,039), and the Unions of TURAIYUR (12,870), UDAIYĀRPĀLAIYAM (7,553), and ARIYALŪR (7,370).

Out of every 100 of the people 92 are Hindus, 3 are Musalmāns, and 5 are Christians. These last increased during the decade 1891–1901 considerably faster than the population generally. Tamil is the prevailing vernacular, being spoken by 84 per cent. of the population, but 12 per cent. speak Telugu (in the Musiri *tāluk* the percentage is as high as 21), and 2 per cent. Kanarese.

About 35,000 people (of whom 29,000 are the shepherd Kurumbas) belong to Kanarese castes, and 178,000 (among whom the Kāpus, Balijās, Chakkiliyans, and Oddes are the most numerous) are Telugus by race. The rest of the Hindu population consists mainly of Tamils. The five castes which occur in the greatest strength, all being usually cultivators, Their castes and occupations.

are called Palli (148,000), Paraiyan (136,000), Ambalakāran (129,000), Vellāla (112,000), and Pallan (109,000). The third of these, the Ambalakārans, are more numerous in Trichinopoly than in any other District. So also are the two castes of the Muttiriyans and the Urālis, who are in some obscure manner connected with them, being perhaps descended from the same parent stock. Other castes which are found here in greater strength than elsewhere are the Sudarmāns and Nattamāns. These two bodies of agriculturists are singling themselves out by following some of the Brāhmanical customs. Of the Musalmāns the majority are Labbais, a mixed race of enterprising traders, sprung from unions between immigrant followers of the Prophet and Tamil women.

Except that the people are even more exclusively agricultural than usual, 73 per cent. of them subsisting by the land and 2 per cent. more by pastoral callings, their occupations in the mass present few peculiarities.

Christian missions.

Of the 76,660 Christians in the District in 1901, 72,352 were Roman Catholics, and of these 71,961 were natives. In 1623 Robert de Nobili, of the famous Madura mission, established a Jesuit station at Trichinopoly. In the next century progress was checked here, as elsewhere, by Papal decrees prohibiting certain Hindu customs tolerated till then among converts, by the cessation of support from Portugal, and by the suppression of the Society of Jesus in 1773. The Society was, however, re-established in 1814, and in 1836 the Madura mission was entrusted to its care. Father Louis Garnier de Falton, who was put in charge of the congregation of Trichinopoly, revived the work of the mission, which had sunk very low, and built the cathedral in the cantonment and a house which he originally intended for a college, but which is now used as a residence by the bishop and his clergy. In 1846 the Right Rev. Alexis Canoz, S.J., was appointed first Vicar Apostolic; and when the Hierarchy of India was constituted in 1886, the Vicariate was made into a diocese under it and the episcopal residence was located at Trichinopoly. The portion of the District lying to the south of the Cauvery and the Coleroon belongs to this diocese, while that on the north belongs to the diocese of Kumbakonam. The former diocese is suffragan to the metropolitan see of Bombay, and the latter to the see of Pondicherry. The Goanese Roman Catholic congregation is scattered about in small communities, under the jurisdiction of the arch-diocese of Goa and the diocese of San Thomé of Mylapore.

The Protestant missions working in the District are the Society for the Propagation of the Gospel, the Leipzig Lutheran, and the Wesleyan Mission. From 1762 to 1778 Swartz, the famous missionary of the Tranquebar Danish Mission, worked at Trichinopoly with the help of the Society for the Promotion of Christian Knowledge, and after him the Rev. C. Pohle carried on the work for over forty years. In 1825 the S.P.G. took it up, and continues to do considerable work to this day. The Wesleyan Missionary Society began its labours in 1847, and the Leipzig Lutheran Mission in 1850. The converts belonging to these three missions number about 2,700, 400, and 1,200 respectively.

General agricultural conditions. Of the total area of the District, according to the classification at settlement, 6 per cent. is alluvial land, 40 per cent. black soil, and 54 per cent. red earth. The first of these occurs in the valleys of the Cauvery and Coleroon. The *regar*, or black cotton soil, prevails in the uplands lying to the north of those rivers, occupying about two-thirds of the area in the eastern portion; towards the west black soils are found in the lower ground, but are overlaid with sand on the higher levels. South of the Cauvery the upland is generally covered by poorer soils, chiefly of a gravelly or sandy nature, and over wide tracts these are so impregnated with soda salts as to be almost bare of vegetation. Both 'wet' (irrigated) and 'dry' crops are mostly matured by means of the north-east monsoon in October and November, but cultivation is begun before this sets in.

Agricultural statistics and principal crops. Of the 3,632 square miles of the District, *ryotwāri* and 'minor *inām*' villages occupy 2,820 square miles, *zamīndāris* 634, and 'whole *inām*' villages 178. Agricultural statistics are available for only 3,041 square miles, of which, in 1903-4, 315 square miles (10 per cent.) were forest, 429 (14 per cent.) were not available for cultivation, 271 (9 per cent.) were cultivable waste not yet taken up for cultivation, 507 (17 per cent.) current fallows, and 1,519 (50 per cent.) formed the area cropped. Statistics by *tāluks* for that year are given in the table on the next page, in square miles.

The staple food-grains of the District are rice, *cholam* (*Sorghum vulgare*), *cambu* (*Pennisetum typhoideum*), *varagu* (*Paspalum scrobiculatum*), and *rāgi* (*Eleusine coracana*). The area under these crops in 1903-4 amounted to 1,320 square miles, or 78 per cent. of the total area cultivated, the respective percentages under each being 21, 16, 15, 15, and 11. Other food-grains occupied 9 per cent. The only other crops worth notice are gingelly (*Sesamum indicum*, 22,000 acres),

ground-nuts (35,000), and cotton (17,000). The Udaiyārpālaiyam and Perambalūr *tāluks* mainly produce *cambu* and *varagu*, Musiri and Kulittalai *cholam* and *cambu*, and Trichinopoly *cholam* and *rāgi*. Cotton is grown mostly in Musiri and Perambalūr, and ground-nuts almost exclusively in Udaiyārpālaiyam. The seed of the ground-nut introduced from Mauritius is said to give a much better yield than native seed. Otherwise there have been no recent improvements in agricultural practice. The crops raised on the Pachaimalais do not differ materially from those cultivated in the plains.

Tāluk.	Area shown in accounts.	Forests.	Cultivable waste.	Cultivated.	Irrigated.
Udaiyārpālaiyam	546	28	43	361	31
Perambalūr .	657	83	108	401	37
Musiri . .	698	154	69	417	73
Kulittalai . .	597	40	20	476	53
Trichinopoly .	543	10	31	371	145
District total	3,041	315	271	2,026	339

Extension of cultivation.

As compared with the average of the five years before the famine of 1876–8, the area in occupation during the quinquennium preceding the resettlement of the District in 1894–5 showed an increase of 8·3 per cent., and the average of the eight years succeeding this a further increase of 9·1 per cent. The average area occupied in the five years before 1901 rose by 1·2 per cent. above the average of the five years preceding 1891, compared with an increase in the population of 5·2 per cent. The population is thus increasing more rapidly than the area under cultivation. About 300 square miles are still available for cultivation, nearly two-thirds being in the Perambalūr and Musiri *tāluks*. The ryots have availed themselves of the Land Improvement Loans Act only to a limited extent, Rs. 94,000 having been advanced between 1888 and the end of June, 1903. The money has been mostly applied to the construction and repair of wells.

Cattle, sheep, and goats.

Both bullocks and buffaloes are used for agricultural purposes, but they are usually undersized and of no well-defined breed. They are bought and sold at the weekly local markets, of which those at Manappārai, Turaiyūr, and Ariyalūr are the most important. A better class of animals, imported from Salem and Mysore, are sold at the annual Samayapuram cattle fair. But latterly this has unfortunately been closed to bullocks from these two places, lest plague might be introduced into the

District. Sheep and goats are of the usual varieties, and are kept chiefly for the sake of their manure and skins.

Irrigation. Of the total area of *ryotwāri* and 'minor *inām*' land cropped (1,519 square miles), 339 square miles, or 22 per cent., are irrigated. Of this, 160 square miles, or nearly half, are watered by channels from the Cauvery and Coleroon, 91 square miles from tanks, and 77 square miles from wells. The principal channels are ancient works constructed by former native governments. They are supplied by *korambus* or temporary dams annually constructed in the bed of the rivers, and are used not only for direct irrigation, but also to conduct water to the tanks. They are annually washed away when the rivers rise in flood. Up to forty years ago they were managed by the villagers, but they are now under the control of Government. The whole system is still a rough-and-ready one, and stands in marked contrast to the splendid irrigation works which span the Cauvery and Coleroon (see CAUVERY) within the District for the benefit of the Tanjore delta immediately adjoining. The tanks in the District number 1,590, and the wells, which irrigate nearly as wide an area, 37,000.

Forests. Trichinopoly contains 305 square miles of 'reserved' forest and 10 square miles of 'reserved' lands. The Pachaimalais contain some teak, blackwood (*Dalbergia latifolia*), sandal-wood, and bamboos, as well as *Albizzia*, *Terminalia*, and *Pterocarpus*. The Reserves in the plains and on the low hills, as well as the plantations on the banks of the Cauvery and Coleroon, are chiefly used as fuel reserves. Several varieties of *Acacia* (*arabica*, *planifrons*, and *leucophlaea*) abound in the uplands, while the trees principally grown in the plantations are *Acacia arabica*, casuarina, *kodukkāpuli* (*Pithecolobium dulce*), *vāgai* (*Albizzia Lebbek*), *gette* (*Dalbergia Sissoo*), *nīm* (*Melia Azadirachta*), and *nāval* (*Eugenia Jambolana*). The forest area in the adjoining Tanjore District being inconsiderable, the Forest officer of Trichinopoly is in charge of that District also.

Minerals. There is no mining in the District, except some surface quarrying of laterite, white clays, and granite. Of the last, the black hornblendic variety is much prized and largely used in building temples. The clays are white varieties, used for pottery and for painting the *nāmams* or sect-marks worn by Vaishnavites on their foreheads. The pottery is of the ordinary designs; when burnt, the clay assumes a bluish-white tinge. The shell marble of Garudamangalam is worked to a small extent. Crude and refined saltpetre are made in considerable quantities. The unworked minerals are iron,

limestone, phosphatic nodules, gypsum, mica, magnesia, and garnet. Phosphatic nodules containing about 57 per cent. of phosphate of lime are found in the neighbourhood of Uttattūr, over a tract of country 1 mile in width and 10 miles in length, both on the surface and imbedded in the clay; but their conversion into soluble manure is attended with some difficulty. Gypsum occurs in the neighbourhood of Uttattūr and Maruvattūr in fibrous or transparent plates, but it cannot be obtained in any quantity free from clay, which destroys its whiteness. The mica found near Manappārai will not divide properly into scales. Magnesite strings in travertine or calcareous tufa, apparently due to the action of old thermal springs, are met with at Tripangali and Vālikandapuram. In one place in the crystalline limestone massive garnet (calderite) has been found.

Arts and manufactures.

The arts and manufactures of the District are unimportant. Weaving occupies the largest number of persons, but as a rule only coarse fabrics are made. Fancy cloths of cotton and silk with borders of silver thread are, however, made by the Patnūlkārans of Trichinopoly city. These are worn by the richer classes of Muhammadans, and are exported to various places in the Presidency. The silk is imported raw, and is cleaned and dyed by the weavers. The silver thread used for the borders is generally imported from Europe, but a specially good and proportionately expensive variety is sometimes obtained from Kumbakonam. Woollen blankets of an inferior kind are made by the Kurumbas in many villages, especially in the Musiri and Perambalūr *tāluks*. They are generally woven of black wool clipped from sheep reared by the Kurumbas themselves. White blankets and woollen and cotton carpets are also manufactured to a limited extent.

Trichinopoly gold and silver ware was once famous and in great demand; but a decline has occurred owing to competition from Madras. There is still, however, a fair local demand. The work is rougher than the frosted silver ware made in Madras, but is by no means destitute of fancy and originality. Brass and copper vessels and plates are made at Trichinopoly and a few other villages. The copper vessels are made by Goanese native Christians. They are devoid, or nearly so, of all ornament. Worn-out copper coin, sold at the Treasury for its value as metal, is used for casting idols and for making brass. A well-known artificer of brass and copper idols lives near Lālugudi village. Glass bangles are made by Gāzula Balijā Chettis in the south of the District, from earth obtained

from Pudukkottai territory and in the Udaiyārpālaiyam *tāluk*. The estimated value of the annual production is about Rs. 12,000. There are also a few manufacturers of ornaments such as pith models, encrusted metal ware, and paintings on talc and ivory. The two former, and also the silk cloths already mentioned, gained prizes at the Delhi Darbār Exhibition, the pith-work receiving, in addition, a bronze medal. This last is cheap and decidedly effective. Favourite subjects for it are models of the various famous temples, which are one of the best means of giving an untravelled European an idea of the characteristics of South Indian Hindu architecture. The lightness of these models and the ingenious way in which they are packed renders them suitable for export. They are not as well known as they should be.

Among the manufactures and industries may be mentioned two screw cotton presses, one at Trichinopoly and the other at Ariyalūr, in which about 600 tons of cotton are pressed annually. Seven tanneries are working in and about Trichinopoly city. The value of the annual output of tanned skins is estimated at over 5 lakhs, and the leather is largely exported to England. Outside the Madras Presidency, Trichinopoly city is best known for its cigars, of which some 12,000,000, valued at about Rs. 75,000, are annually manufactured and exported. The tobacco leaf is mostly obtained from DINDIGUL. The industry has suffered heavily from the competition of Madras and Dindigul cigars wrapped with the milder leaf grown in Java and Sumatra, but good plain cheroots are still turned out at reasonable prices. There are several iron-screw oil presses in Trichinopoly city, in which lamp-oil is extracted from castor-seed. The cold-drawn oil is heated before being put into casks for export. Without this precaution it is apt to become rancid.

Commerce. The chief exports of the District are cereals and pulses, chillies, cotton, gingelly, ground-nuts, plantains, coco-nuts, betel-leaf, jaggery (coarse sugar), tanned hides and skins, castor-oil, oil-cake, saltpetre, stone, and cigars. Most of these are sent to adjoining Districts. Ground-nuts, which are now largely grown in the Udaiyārpālaiyam *tāluk*, are exported to Kumbakonam and Cuddalore for English, French, and native firms. Tanned hides and skins are sent to Madras and thence to England. Plantains are exported to the State of Mysore, and coco-nuts as far north as the Nizām's Dominions. Cigars are sent all over India and also abroad. Cotton is railed to Madras and Virudupatti. Oil-cake goes to Tuticorin, probably for export

by sea to Ceylon. The chief imports are grain and pulse from Coimbatore; castor-seeds from the same District and Salem; cotton seeds from Virudupatti; coco-nut oil, pepper, and areca-nuts from Malabar; raw tobacco from Madura and Coimbatore; kerosene oil from Madras; piece-goods and twist from Madras and Bombay; and salt and salt fish from Tanjore and Tinnevelly. Trichinopoly city is the chief centre of general trade, as a large portion of the rail-borne traffic has to pass through it, the tract of country to the north of the Cauvery and Coleroon rivers being accessible only by the bridges which cross these rivers near the city. Considerable traffic between the Udaiyārpālaiyam *tāluk* and Kumbakonam passes over the bridge on the Lower Anicut (see CAUVERY) across the Coleroon. Among minor centres of trade may be mentioned Ariyalūr, where there is a cotton press, Perambalūr, and Turaiyūr. The principal trading castes are the Chettis and Labbais. There are several Nāttukottai Chettis, Gujarātīs, and Mārwāris in Trichinopoly city. Most of the internal trade is effected through the weekly markets, of which twenty-four are under the control of the local boards. The right to collect fees at these was leased in 1903-4 for Rs. 14,000. The most important are at Ariyalūr, Manappārai, and Turaiyūr. It is in contemplation to expend the fees collected at the first of these in bridging a large river which crosses the road from that town to TANJORE.

Railways and roads. The railways of the District include the main line of the South Indian Railway, and its branch from Trichinopoly to Erode. The former enters the District from Tanjore on the east, passes through its head-quarters, and thence runs south-westward across it. The Erode branch proceeds westward from Trichinopoly along the southern bank of the Cauvery into Coimbatore District. The section from Tanjore to Trichinopoly and thence to Erode was originally built on the standard gauge, and was opened for traffic as far as Trichinopoly Fort in 1862, and to Karūr (in Coimbatore) in 1866. The line to Trichinopoly was converted to metre gauge in 1875, and that to Erode in 1879.

The District board has recently begun to levy a cess of 3 pies in the rupee of land assessment for the construction of such local steam-tramways or railways as may eventually be decided upon. It is also in contemplation to build a standard-gauge line, connecting with the other great broad-gauge systems, from Arkonam through Tirukkoyilūr and Trichinopoly and on to Rāmnād and the proposed port on Pāmban

island. This would greatly benefit the north of the District, which is at present much isolated.

The total length of metalled roads is 596 miles, and of unmetalled roads 145 miles. With the exception of about 37 miles of unmetalled roads maintained by the Public Works department, all these, as well as the Cauvery and Coleroon bridges, are at present in charge of the local boards. Avenues of trees have been planted along 663 miles. The chief lines are the Madras trunk road from the north of Perambalūr to Madura, and a series of lesser routes radiating from Trichinopoly city to Karūr, Dindigul, Pudukkottai, Tanjore, and Udaiyārpālaiyam, and to Salem District through Perambalūr, Turaiyūr, and Musiri. The large number of these roads is a severe tax upon the resources of the boards. Their chief defect lies in the many small unbridged streams which cross them. These become torrents in the monsoon and sand-heaps in the dry season. Tolls are levied at fifteen places, the right to collect them being leased annually. The lease fetched Rs. 55,000 in 1903-4.

There are thirty-five ferries across the Cauvery and Coleroon, the boats used being circular coracles made of hides stretched on a light framework. These ferries were leased in 1903-4 for Rs. 15,000. The most important is that which plies between the towns of Musiri and Kulittalai. The chief bridges are that across the Cauvery connecting Trichinopoly with Srīrangam island and town, and that over the Coleroon joining the opposite side of the island with the northern bank of that river. The Grand Anicut and Upper Anicut (see CAUVERY) both carry bridges; but as each of these crosses one of the two rivers, they are useful only for the limited amount of traffic which goes from the mainland to the extremities of the Srīrangam island. The Lower Anicut bridge, as already mentioned, forms an important outlet for traffic.

Trichinopoly appears to have suffered in the famines of 1804, 1807, 1811, 1814, and 1833; but no particulars are available. During the famine of 1866 an average of 2,495 people were gratuitously relieved daily during the four months August to November, but the number on relief works was very small. The maximum number relieved in any month was 4,166 in September, 1866, and the total cost to the state was only Rs. 6,000. In the famine of 1876-8, the average number of people relieved during the twenty-two months from December, 1876, to September, 1878, was 4,423: namely, 2,318 on works and 2,105 gratuitously. The maximum number relieved in Famine.

any one month was 20,550 (December, 1877). The cost of the famine to the state was 5 lakhs (1 lakh for gratuitous relief and 4 for works). The District suffered comparatively little, and distress was due less to failure of crops than to high prices caused by the exportation of grain to other areas. There has been no famine since.

District subdivisions and staff.

For administrative purposes the five *tāluks* are grouped into three subdivisions, all the officers in charge of which are usually Deputy-Collectors recruited in India. These are the Trichinopoly subdivision, consisting of the Trichinopoly *tāluk* only; the Musiri subdivision, comprising Musiri and Kulittalai; and the Ariyalūr subdivision, made up of Perambalūr and Udaiyārpālaiyam. A *tahsīldār* and a stationary sub-magistrate are posted at the head-quarters of each *tāluk*, in addition to deputy-*tahsīldārs* at Trichinopoly city, Lālugudi (Trichinopoly *tāluk*), Turaiyūr (Musiri *tāluk*), Manappārai (Kulittalai *tāluk*), and Kīlapalūr (Udaiyārpālaiyam *tāluk*). These officers have both revenue and magisterial powers. There are also benches of magistrates for Trichinopoly city and Srīrangam. The superior staff of the District consists of the usual officers. The Collector is *ex officio* Political Agent for Pudukkottai State. Trichinopoly city is the head-quarters of a Deputy and an Assistant Commissioner of Salt and Abkāri Revenue, of a Superintending Engineer, and of the South Indian Railway.

Civil justice and crime.

Civil justice is administered by a District Judge and the four District Munsifs of Trichinopoly, Srīrangam, Kulittalai, and Ariyalūr. The two former both hold their courts in Trichinopoly city and have jurisdiction over different parts of the Trichinopoly *tāluk*, the Srīrangam Munsif taking, roughly speaking, the part of it which lies north of the Cauvery, and the Trichinopoly Munsif the rest. The other two Munsifs try cases arising in the subdivisions of Musiri and Ariyalūr. Criminal justice is administered on the usual lines, there being a Court of Sessions besides the subordinate magistrates already mentioned and the three divisional officers. The District is no more addicted to crime than its neighbours, but the system of paying rewards to thieves for the recovery of property stolen instead of reporting the thefts to the police prevails to an unusual extent and takes unusual forms. The Kallans, the most criminal caste, exact, for example, what amounts to blackmail from all classes, even from Europeans, by ensuring that those households which employ a watchman belonging to this community shall be exempt from thefts, but that those which do not shall suffer proportionately. This practice is a relic of

the old native police system, under which every one paid *kāval* ('watch') fees, and the watchmen were bound to make good any losses due to theft; and its eradication is a matter of the greatest difficulty. In Madura, recently, the whole population combined against these exactions of the Kallans, and after several riots and some bloodshed were successful in breaking them down to some extent.

Land revenue administration. No detailed information is available regarding the revenue system in force under the Chola and Naik dynasties, but it is known that the land tax collected by them amounted as a rule to half the gross produce and often more. Under Muhammadan rule, which immediately preceded the British occupation, the revenue was collected in kind in irrigated *tāluks*, the crops being generally equally divided between the government and the ryot after a deduction of 5 per cent. of the gross produce had been made for cultivation expenses. In certain cases, however, the ryots were allowed to take from 55 to 68¾ per cent. of the produce. The fees due to the village servants, which varied from 23 to 28 per cent. of the gross produce, were paid by the ryots out of their share. In the 'dry' portion of the country the land tax was collected in money, the rates in some villages being based upon the crop raised and in others upon the nature of the soil. The sale of grain was a strict government monopoly and large profits were made from it.

When the country came under the British Government, the Muhammadan system was at first adhered to, except that payments in kind were commuted into a money assessment. But the resources of the country had been exhausted by previous misgovernment and by war and famine, and this land tax pressed heavily on the people; the evil was aggravated by frequent floods, by deficient rainfall, and by a fall in the price of food-grains. Various experiments were made to lighten the burden—a triennial lease, a decennial lease, a settlement with each ryot instead of with the head of the village or the village community, the reduction of the assessment, and the measurement of the fields and classification of their soils by the *karnams* or village accountants; but up to 1854 agricultural depression continued to be more or less marked. One great reason was the extraordinary fall in the price of produce, making all fixed money-rents difficult to meet, which was due to causes in operation throughout India. Owing to the slow development of export trade and the remittance of a considerable amount of specie to England, the currency of the country had become insufficient for its

requirements under the altered conditions brought about by British rule: namely, the development of internal traffic, and the substitution of cash-payments for payments in kind both in the receipt of taxes and the disbursements by Government. The revenue system was moreover very complicated and required amendment and simplification, and the need of a professional survey and settlement was much felt.

The survey was commenced in 1854-5 and the settlement in 1858-9. Soils were classified on a fixed plan, and the rates of assessment fixed were twenty-one in number for irrigated lands (varying from Rs. 7-8-0 to R. 1 per acre) and nineteen for 'dry' lands (varying from Rs. 3-8-0 to 4 annas). The averages for 'wet' and 'dry' lands were Rs. 4-4-0 and about R. 1 respectively. These rates were introduced in 1865; and, though the survey had shown that the area under cultivation had been understated in the old accounts by 7 per cent., they resulted in a decline of 25 per cent. in the revenue demand for the District. Irrigation of second crop was charged from one-third to one-fifth (according to the quality of the source from which it was watered) of the assessment on the first crop, subject to a minimum charge of R. 1 per acre. The cultivated land on the Pachaimalai Hills was assessed at 8 annas and 4 annas per acre, the latter rate being applied to the *punalkādu* or hoe cultivation in vogue there. All these assessments included a road-fund rate of 2 per cent. on the land revenue, but not the fees to village servants, for which a cess of 6¼ per cent. on the revenue was separately levied.

This settlement continued in force for the usual period of thirty years. In July, 1891, a new survey was begun, which was completed in 1893-4, and in the following year a new settlement was made. In the Cauvery valley, and in the case of lands under the Coleroon, Amarāvati, and Nandiyār rivers, the 'wet' lands, which had for the most part been under-assessed before, and the 'dry' fields among them were classified afresh on the lines previously adopted in the adjoining District of Tanjore. For this tract the revised rates were twelve in number for 'wet' land, varying from Rs. 12 to Rs. 3-8-0 per acre, and eleven in number for 'dry' land, varying from Rs. 7 to 8 annas. Those fields in the Cauvery valley which had a sufficient and steady supply of water for two crops were registered as permanent double-crop lands, and were charged one and a half times the single-crop assessment, whether a second crop was raised or not. In other parts of

the District, composition for the second-crop charge was allowed at one-third, one-fourth, one-fifth, or one-sixth of the first-crop assessment, according as the land was watered by irrigation works of the second, third, fourth, or fifth classes respectively. No composition was allowed in the case of sources of the first class, but half the first-crop assessment was levied. In these parts, the 'wet' and 'dry' assessments were enhanced, in proportion to the rise in prices, by about 20 and 12½ per cent. respectively; there was no reclassification of the soils, but certain tanks were raised from a lower to a higher class with reference to their improved capacity for irrigation. The average assessment throughout the District on 'dry' land is Rs. 1-0-3 per acre (maximum, Rs. 5; minimum, 8 annas), and on 'wet' land Rs. 6-5-11 (maximum, Rs. 12; minimum, Rs. 3-8-0).

The effect of this resettlement was to raise the land revenue demand from Rs. 15,97,000 to Rs. 19,12,000, or by 19·7 per cent.; but the increase has not injuriously affected agricultural interests, as appears from the facts that grain prices remain steady at a higher level than formerly, and that the price of land has not fallen. The rates adopted do not include the road cess of 2 per cent., as in the previous settlement; in its place the land cess is levied separately as elsewhere at one anna in the rupee of the land revenue, or 6¼ per cent., under the Local Boards Act. The revenue from land and the total revenue in recent years are given below, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	16,10	18,62	26,72	24,89
Total revenue . .	19,90	26,28	36,88	37,55

Outside the two municipalities of Trichinopoly and Srīrangam, local affairs are managed by the District board and by the three *tāluk* boards of Trichinopoly, Musiri, and Ariyalūr, the areas under the control of which correspond with the three subdivisions of the same names. The total expenditure of these boards amounted in 1903-4 to Rs. 3,37,000, of which Rs. 1,91,000 was laid out on roads and buildings. The chief source of income is, as usual, the land cess. Thirteen Union *panchāyats* have been constituted under the Local Boards Act to look after sanitation in the smaller towns. Local boards.

The District Superintendent is also *ex officio* Superintendent of the police in the Pudukkottai State. In Trichinopoly there are 56 police stations and one outpost; and the strength of Police and jails.

the force in 1904 was 11 inspectors, 87 head-constables, and 624 constables, besides 936 rural police or *talaiyāris*. The Central jail in Trichinopoly town holds 1,373 prisoners. The convicts are largely employed in weaving blankets for native troops and for prisoners from the wool removed from skins before tanning. Hand-looms of the usual pattern are employed. Besides the Central jail, 9 subsidiary jails contain accommodation for 152 male and 55 female prisoners.

Education. According to the Census of 1901 Trichinopoly ranks ninth among the 22 Districts of the Presidency in the literacy of both its male and female population, the percentages of persons able to read and write being 12·9 for males, 0·8 for females, and 6·6 for the two sexes together. Education, as might be expected, is most advanced in the Trichinopoly *tāluk*; Musiri, Udaiyārpālaiyam, and Kulittalai may be ranked together; while Perambalūr is the most backward. In 1880–1 pupils under instruction numbered 10,786; in 1890–1, 24,728; in 1900–1, 33,325; and in 1903–4, 37,318. On March 31, 1904, the number of educational institutions in the District was 1,024, including 738 classed as public and 286 as private. Of the former, 697 were primary schools, 30 secondary, and 9 training or other special schools, and there were 2 Arts colleges in Trichinopoly city, maintained by the Jesuit Mission (St. Joseph's) and the Society for the Propagation of the Gospel. Girl pupils numbered 4,167. Five institutions were managed by the Educational department, 94 by the local boards, and 13 by the municipalities, while 365 were aided from public funds, and 261 were unaided but conformed to the rules of the department. The five Government schools consist of a training-school for masters at Trichinopoly, with an upper primary school attached; a lower secondary vernacular school for girls at Srīrangam; and the primary girls' schools at Perambalūr and Jeyamkondacholapuram. The Society for the Propagation of the Gospel and the Roman Catholic Mission each have a school for the training of mistresses. The technical schools include two which teach shorthand and typewriting respectively, and the Puttūr and Irungalūr industrial schools for women managed by the S.P.G. In the two latter the girls are instructed in lace-making. The District board maintains an itinerating sessional school, in which village schoolmasters are prepared for the primary examination, for a few months at certain centres. Of the male population of school-going age 22 per cent. are in the primary stage of instruction, and of the female population of the same age 4 per cent. The corresponding percentages for

Musalmāns (who, however, form only a small fraction of the population) are 75 and 4. Panchama pupils to the number of 2,614 are under instruction at 68 schools specially maintained for depressed castes. The expenditure on education in 1903-4 was Rs. 2,96,000, of which Rs. 1,46,000 was met from fees. The outlay on primary education was nearly 41 per cent. of the total.

Hospitals and dispensaries.

The District possesses 4 hospitals and 11 dispensaries. Two of the former belong to the municipalities of Trichinopoly and Srīrangam, one, at Irungalūr, to the S.P.G., and the fourth, at Ariyalūr, to the *tāluk* board. The dispensaries are all under the management of the local boards. The hospitals contain accommodation for 78 males and 55 females. The total number of in-patients treated in 1903 was 1,900, and of out-patients 191,000; the number of operations performed was 5,800. The expenditure amounted to Rs. 44,000, the greater part of which was met from Local and municipal funds. In addition, a police hospital and a charitable dispensary of the Jesuit Mission are maintained at Trichinopoly. The patients treated in these in the same year numbered 300 and 30,000 respectively.

Vaccination.

As regards vaccination in rural tracts, the District occupies a middle place. In 1903-4 the number of successful vaccinations was 28 per 1,000 of the population, the mean for the Presidency being 30. In the municipalities of Trichinopoly and Srīrangam the proportion was 75 and 53 respectively, the Presidency average for all municipalities being 50. Vaccination is compulsory in these two towns and in eight of the thirteen Unions.

[F. R. Hemingway, *District Gazetteer*, 1906.]

Ariyalūr Subdivision.—Subdivision of Trichinopoly District, Madras, consisting of the Udaiyārpālaiyam and Perambalūr *tāluks*.

Udaiyārpālaiyam Tāluk.—North-eastern *tāluk* of Trichinopoly District, Madras, lying between 10° 54′ and 11° 26′ N. and 78° 59′ and 79° 30′ E., with an area of 753 square miles. It is bordered on the north by the Vellār river and on the south by the Coleroon. At the south-eastern extremity is the Lower Anicut across the latter river, over which passes the trunk road from Kumbakonam to Madras. The population in 1901 was 300,708, compared with 290,563 in 1891. Of the total area, 204 square miles are included in the Udaiyārpālaiyam and Ariyalūr *zamīndāris*. The towns are Udaiyārpālaiyam (population, 7,553) and Ariyalūr (7,370), and there are 228 villages. The head-quarters of the *tahsīldār* are at Jeyamkonda-

cholapuram. The general aspect of the *tāluk* is flat; the soil is for the most part a mixture of red sand and clay, but strips of alluvium run along the banks of the Vellār and Coleroon rivers and on the west. Throughout the greater part of the Ariyalūr *zamīndāri* the land is black cotton soil, thinly spread over a substratum of limestone. This *tāluk* benefits most by the north-east monsoon, and its average annual rainfall (39 inches) is almost the heaviest in the District. The area cultivated in 1903–4 was 361 square miles, the principal crops being rice, *cambu*, *rāgi*, *dāl*, ground-nuts, and gingelly. The demand for land revenue and cesses amounted to Rs. 4,01,000. About 17,600 acres of Government land and a considerable portion of the *zamīndāris* are covered with a jungle of low brushwood (*Memecylon edule*), of which large quantities are exported for fuel to Kumbakonam and villages in Tanjore District.

Perambalūr.—Northern *tāluk* of Trichinopoly District, Madras, lying between 10° 55′ and 11° 32′ N. and 78° 40′ and 79° 10′ E., to the south of the Vellār river, with an area of 674 square miles. The head-quarters are at the village of the same name. The population in 1901 was 204,257, compared with 195,006 in 1891. The number of villages is 128. The demand for land revenue and cesses amounted in 1903–4 to Rs. 4,01,000. The general aspect of the *tāluk* is flat, except in the north-west, where the Pachaimalais, which separate it from Musiri, run for a short distance into it. From these hills, up to and along the banks of the Vellār, stretches a continuous plain of black cotton soil in which are large tracts of stiff black clay. In the southern portion the country is rocky, and the soil as a rule poor. Channels from the Vellār and its two affluents the Kallār and Chinnār irrigate a part of the *tāluk*, but otherwise the irrigated crops depend upon tanks and wells. The rainfall is usually the highest in the District (39 inches annually). The area still available for cultivation is large, being nearly two-fifths of the total unoccupied area in the District.

Musiri Subdivision.—Subdivision of Trichinopoly District, Madras, consisting of the MUSIRI and KULITTALAI *tāluks*.

Musiri Tāluk.—*Tāluk* in Trichinopoly District, Madras, lying between 10° 54′ and 11° 23′ N. and 78° 10′ and 78° 52′ E., with an area of 762 square miles. The population rose from 282,619 in 1891 to 294,383 in 1901. The *tāluk* contains one town, TURAIYŪR (population, 12,870), and 156 villages. The demand for land revenue and cesses amounted in 1903–4 to Rs. 5,02,000. The *tāluk* is bounded on the south by the Cauvery river. The Pachaimalai Hills occupy the northern

part, and the Kollaimalais, which lie entirely within Salem District, form the boundary at the north-west corner. South-west of the Kollaimalais is a detached hill, the Talamalai, which is a prominent object in the landscape, and commands a fine view. An attempt was once made to make it a hot-season residence for the Collectors of Trichinopoly. There is another small hill (Tiruvengimalai) about 3 miles to the west of Musiri, from the top of which a good panorama of the Cauvery valley can be obtained. The Turaiyūr *zamīndāri* lies in this *tāluk*. The Kāttuputtūr *mittah* in the south-western corner is the only estate of this description in the District, and was transferred from Salem in 1851. It comprises five villages, and pays an annual *peshkash* of Rs. 15,900. It was created by Government in 1802 and given to Sarvottama Rao, then head *sheristadār* of Salem.

Kulittalai.—*Tāluk* in Trichinopoly District, Madras, lying between 10° 16′ and 10° 59′ N. and 78° 8′ and 78° 43′ E., with an area of 901 square miles. The population rose from 243,700 in 1891 to 263,331 in 1901. The *tāluk* contains 229 villages. The demand for land revenue and cesses amounted in 1903–4 to Rs. 3,73,000. The head-quarters are at Kulittalai village. The Amarāvati river irrigates a few villages in the north-west corner, and the Cauvery, which forms the northern boundary, waters a narrow strip of land along that side. This tract is very fertile, but the soil in the remainder of the *tāluk* is generally poor. There are low hills covered with shrub jungle in the south and south-west. Two of the many large bosses of gneiss with which the District is studded are in this *tāluk*; one of these, called Ratnagiri, is about 5 miles to the south-south-west of Kulittalai village. The southern portion of the *tāluk*, consisting of the Marungāpuri and Kadavūr *zamīndāris* and thirty-two Government villages, comprised the old Manappārai *tāluk*, which was transferred from Madura District in 1856.

Trichinopoly Tāluk.—Central *tāluk* in the District of the same name, Madras, lying between 10° 38′ and 11° 3′ N. and 78° 28′ and 79° 1′ E., with an area of 542 square miles. It forms a revenue subdivision by itself, and its chief town, TRICHINOPOLY (population, 104,721), is the head-quarters of the subdivision as well as of the District. The population in 1901 was 382,091, compared with 360,829 in 1891. The number of towns and villages is 193, including the municipality and island of Srīrangam (population, 23,039). The *tāluk* is divided into almost equal portions by the valley of the

CAUVERY and COLEROON. The demand for land revenue and cesses amounted in 1903–4 to Rs. 8,13,000.

Ariyalūr Town.—Chief town of the *zamīndāri* of the same name in the Udaiyārpālaiyam *tāluk* of Trichinopoly District, Madras, situated in 11° 8′ N. and 79° 5′ E. Population (1901), 7,370. It is the head-quarters of the Ariyalūr subdivision, which is in charge of a Deputy-Collector and Magistrate, and comprises the *tāluks* of Perambalūr and Udaiyārpālaiyam. It also contains a District Munsif's court and a hospital, and a European firm has a screw cotton press here. Satins of various patterns are made in the town by the foreign weaver-caste of the Patnūlkārans, which are most handsome and effective and have a wide reputation. The chiefs of Ariyalūr experienced numerous vicissitudes during the Wars of the CARNATIC and the government of the Nawāb. When Trichinopoly District passed into the hands of the East India Company in 1801, the *poligār*, or chief, was in receipt of a monthly allowance of Rs. 700, the estate being under the management of an agent of the Nawāb. The *zamīndāri* continued under the management of the Company for some years, the proprietor being allowed one-tenth of its net income; but in 1817 he obtained a *sanad* (title-deed) for the village in which he resided and a number of others adjoining it, the annual value of which was equal to one-tenth of the gross revenue of the estate, and he was required to pay a *peshkash* of about Rs. 1,090. The *zamīndārs* are Vanniyas by caste, and originally held the estate as *arasukāvalgārs* or 'heads of police.' The property has since been dismembered into seventeen portions, as a result of civil court sales held to discharge the debts incurred by its owners. Ariyalūr has a particularly fine market, which is regarded as one of the best in Southern India. A large temple of comparatively recent date, about 4 miles from the town, is a sort of local Lourdes, devout Hindus taking their sick to it in the hope that their cure will be effected at the hands of the founder of the temple.

French Rock.—A little rock in Trichinopoly *tāluk* and District, Madras, situated in 10° 49′ N. and 78° 43′ E., about a mile to the east of TRICHINOPOLY CITY, and to the north of the Tanjore road at the point where it is crossed by the Uyyakondān channel. It has two prominences with a saddle between. In the siege of Trichinopoly by Chanda Sāhib and the French in 1751, the latter occupied the rock and mounted on it two 18-pounders; hence its name. The guns were, however, at too great a distance to make any impression on

the walls of the fort. Some time after (April, 1752) the French abandoned for a time all their posts to the south of the Cauvery, except Tiruvarambūr (Erumbīswaram). In 1753 Major Lawrence pitched his camp a little to the south-east of the French Rock in order to facilitate a junction with the reinforcements expected from Madras. The remains of the redoubt which protected the left of his camp are still to be seen, about 300 yards north of the railway and $1\frac{1}{2}$ miles north-east of the Golden (or Sugar-loaf) Rock. After the arrival of these reinforcements the battle of the Sugar-loaf Rock was fought (September 21, 1753), in which the French and Mysore forces were utterly defeated. In the Central jail at Trichinopoly are two old battered guns, one still spiked, which are supposed to have been taken in this fight.

Gangaikondapuram.—Village in the Udaiyārpālaiyam *tāluk* of Trichinopoly District, Madras, situated in 11° 12′ N. and 79° 28′ E., about 6 miles east of Jeyamkondacholapuram, the head-quarters of the *tāluk*, and 1 mile west of the trunk road from Madras to Kumbakonam. It is now an unimportant agricultural village with a population (1901) of only 2,702, but historically and archaeologically it is one of the most interesting places in the District. The name as now spelt means literally the 'city visited by the Ganges,' and is popularly derived from a well in the temple which according to tradition is connected by underground ways with the Ganges. The story is that Bānāsura having been disabled from going to the Ganges for his bath, Siva made the river appear in this well and thus enabled the demon to obtain salvation. The name, however, is quite certainly a contraction of Gangaikondacholapuram, the city founded by Gangaikonda-Chola ('the Chola who conquered the country round the Ganges'), this surname having been borne by Rājendra-Chola I. The city, of which the remains still lie scattered in the neighbourhood, was the residence of the Chola kings from Rājendra-Chola I to Kulottunga I, A.D. 1011–2 to 1118.

The most prominent object in the ruins is the great temple, which resembles in many respects the famous shrine of Tanjore. Bishop Caldwell thought this latter was probably copied from it, but the present belief is that it was founded by Rājārājā, the father of Rājendra-Chola I, who was also the founder of the Tanjore temple, and that therefore the two buildings were both erected about the same time. The temple consists of one large enclosure, measuring 584 feet by 372. This was evidently once well fortified by a strong surrounding wall with a two-

storeyed colonnade all round and bastions at each corner. In 1836, however, the bastions were almost entirely destroyed and most of the wall removed, to provide materials for the Lower Anicut across the Coleroon which was then under construction. The wall is being gradually rebuilt and there are traces of three bastions, one at each end of the eastern wall and another in the centre of the west wall. The remains of two other bastions in front of the temple are said to be buried in the débris of the *gopuram* (tower) over the eastern entrance, which is now almost completely in ruins. This *gopuram* was evidently once a very fine structure, being built entirely of stone except at the very top, whereas in almost every other case all but the lowest storey of such towers consists of brick and plaster. The ruins of six other *gopurams* are said to have once existed, but there is now no trace of them. The *vimāna* or shrine in the centre of the courtyard strikes the eye from a great distance. The pyramidal tower above it reaches the great height of 174 feet. All the lower part is covered with inscriptions. They relate chiefly to grants to the temple made in the reigns of Ko Rāja-kesari-varma Udaiyār, Srī Vīra Rājendra Deva, Kulottunga Chola Deva, Kulasekhara Deva, and Vikrama Pāndya Deva. One grant was made by Sundara Pāndya in the second year of his reign, and another inscription which is imperfect probably refers to the Vijayanagar dynasty. There were a large number of *mantapams* (halls) and small buildings all round the inner side of the enclosing wall; but most of these have been pulled down and the materials carried off, and the rest are in ruins. Among them is a round well about 27 feet in diameter, down to which leads a flight of steps surmounted by a figure of a huge dragon (*yāli*), put up, as a tablet shows, by the *zamīndār* of Udaiyārpālaiyam. This dragon is perhaps the most striking figure in the temple precincts. It may be described as a cat-like sphinx. The steps to the well pass between its fore-legs. There is also a bull, much resembling the famous one in the Tanjore temple. It is so placed that, when the doors of the shrine are open, it can contemplate the idol at the end of a long dark corridor. The carving on the *vimāna* is very fine, and includes all the principal Saivite deities, &c. The boldness and the spirit of the chief figures and the absence of grossness in the representations bring to mind the old Jain temple, said to be of the fifth or sixth century, at Conjeeveram. These two buildings and the celebrated shrine at Tanjore are perhaps the only important instances in the Presidency in which the design

culminates in the tower over the central shrine. The architectural superiority of this method of design over the later temples, of which that at Madura may be taken as a type, is obvious.

About a mile to the west of the temple an embankment of great strength runs north and south for 16 miles. It is provided with several substantial sluices, and in former times must have formed one of the largest reservoirs in India. This huge tank or lake, called Ponneri, was partly filled by a channel from the Coleroon, upward of 60 miles in length, which entered it at its southern end; and partly by a smaller channel from the Vellār, which entered it on the north. Traces of both these still remain. The tank is now in ruins and has been useless for many years, and the bed is almost wholly overgrown with high and thick jungle, except in portions of the foreshore which have been assigned for cultivation. A scheme for the restoration of this gigantic work and for supplying it by a channel from the Upper Anicut across the Cauvery has been recently investigated and abandoned.

Traces of many ancient buildings still exist round about Gangaikondapuram, and their foundations are often quarried for bricks, some of which are 15 inches long by 8 wide and 4 deep. In a quarry now open have been found ashes, bricks, and concrete with burnt iron nails imbedded in the mass, showing that the buildings they once formed must have been destroyed by fire. The destruction of the city and tank was probably the act of an invading army. Local names still indicate the disposition of the several parts of the city: such as Māligaimedu, the site of the 'royal residence'; Edaikattu, the 'middle structure'; Ulkottai, the 'hindmost structure'; Yuddhapallam, 'battle-field'; Ayudakalavan, 'arsenal'; Pallivādai, the 'suburb occupied by the cultivators'; Pākalmedu, 'vegetable garden'; Meykāvalteru, the 'street occupied by *kāvalgārs*' (watchmen); Chunnāmbukuli, 'limekilns'; Tottikulam, a 'pond where cattle were watered'; Kalanikulam, a 'pond in which rice-washings were allowed to stagnate to be drunk by the cattle'; and Vannānkuli, the 'washerman's pond.'

Pachaimalais ('green hills').—A hill-range on the borders of Trichinopoly and Salem District, Madras, lying between 11° 9′ and 11° 29′ N. and 78° 31′ and 78° 51′ E., due north of Trichinopoly city. Their total area is 177 square miles, of which 105 are in the Musiri and Perambalūr *taluks* of Trichinopoly and the rest in the Atūr *tāluk* of Salem. They attain a height of 2,500 feet above the level of the sea, and their greatest length

from north to south is about 20 miles. In shape the range has a slight resemblance to an hour-glass, being nearly cut in two by ravines of great size and depth opening to the north-east and south-west. Of the two parts into which it is thus divided, the north-eastern is the larger and has a generally higher level than the south-eastern. A striking characteristic of the range is the great steepness of the western slopes as compared with those on the east, which latter are rarely precipitous and are broken by several long spurs which project far into the low country. The climate of the Pachaimalais is notoriously malarious.

The 'reserved' forests on the hills cover an area of 80 square miles, and consist largely of *usilai* (*Albizzia amara*), *vengai* (*Pterocarpus Marsupium*), teak, blackwood (*Dalbergia latifolia*), sandal-wood, and bamboos. The minor products of the hills are myrabolams (*Terminalia Chebula*), *vembādampattai* (*Ventilago madraspatana*), a bark from which a red dye is extracted, the fruit of the hill gooseberry (*Rhodomyrtus tomentosa*), and honey. The only large game on the range are a few leopards and bears.

The inhabited portion is entirely in the Musiri *tāluk*. This comprises 3 villages, Vannādu, Tambaranādu, and Kombai, containing in the aggregate 68 hamlets and 6,529 inhabitants. The people call themselves Kānchi Vellālas, and say they migrated to these hills from Conjeeveram (compare the account of the Malaiyālis on the Shevaroy Hills) at the time of a severe famine. The crops they cultivate do not differ materially from those grown on the plains. There is no 'wet' cultivation, but an unirrigated variety of rice is raised. The jack-tree (*Artocarpus integrifolia*) is also extensively grown.

The cultivated land is divided into two classes: *ulavakādu*, land capable of being ploughed; and *punalkādu*, or land which cannot be ploughed and the cultivation of which is carried on by grain being dibbled in among trees and rocks wherever a few feet of soil is to be found. These two kinds of land are assessed at 8 annas and 4 annas respectively per acre. The cadastral survey of the hills is in progress. A forest road runs from the Turaiyūr-Atūr road to the foot of the hills, and thence a bridle-path leads to a forest rest-house on the plateau, the total length of both being 8 miles.

Samayapuram. — Village in the *tāluk* and District of Trichinopoly, Madras, situated in 10° 56′ N. and 78° 45′ E., on the high road to Madras, about 8 miles north of Trichinopoly city. Population (1901), 1,213. Adjoining it on the

south is the village of Kannanūr (population, 2,026). The ground covered by the two villages is of much historical interest. It is called Samayapuram (Samiavaram) in Orme's History and Kannanūr in ancient stone inscriptions.

In 1752, when the French army under Law had retreated from the south of the Cauvery to the island of Srīrangam, Major Lawrence, at Clive's suggestion, determined to divide his army into two divisions, and to send one of them to the north of Trichinopoly, with the view of getting possession of the enemy's posts in that part of the country and intercepting any reinforcements which might be sent from Pondicherry This expedition was entrusted to Clive, who on April 7 took possession of the village of Samayapuram. There are two temples in this village and in Kannanūr about a quarter of a mile apart: namely, the Bhojeswara shrine on the west, and the Māriamman temple on the east, of the old high road leading to Madras, which then ran a few hundred yards to the east of the present road. The Europeans and sepoys were placed inside these buildings, while the Marāthās and Tanjore troops encamped outside. A detachment sent by Dupleix from Pondicherry under D'Auteuil reached Uttattūr on April 14; and, in order to intercept this body while on the march, Clive advanced from Samayapuram towards Uttattūr, on which D'Auteuil, who had already started for Trichinopoly, retraced his steps to the latter village. Clive then fell back on his former position. Law, who was commanding at Srīrangam, heard of Clive's departure but not of his return, and determined to surprise and cut off whatever force might have been left behind by him. With this object he dispatched a force of 80 Europeans (of whom 40 were English deserters) and 200 sepoys. In the skirmish which ensued, and which is graphically described by Orme, Clive had more than one narrow escape. The French force arrived near the English camp in Samayapuram about midnight; and the English deserters persuaded the native sentries that they had been sent by Major Lawrence to reinforce Clive, and with all their following were allowed to enter the camp. They reached unchallenged the smaller of the two temples. When challenged there, they answered by a volley and entered the building, putting to the sword every person they met. Clive, who had been sleeping in a neighbouring rest-house, thought the firing was that of his own men who had taken some false alarm, and fetched 200 of the European troops from the other temple. On regaining the smaller shrine he found a large body of

sepoys firing at random. Still mistaking them for his own troops he went among them, ordering the firing to cease, upbraiding some for their supposed panic and even striking others. One of the French sepoys recognized that he was English, and attacked and wounded him in two places with his sword and then ran away to the temple. Clive, furious at this supposed insolence on the part of one of his own men, pursued him to the gate and there, to his great surprise, was accosted by six Frenchmen. With characteristic composure he told the Frenchmen that he had come to offer them terms, and that if they did not accept them he would surround them with his whole force and give them no quarter. Three of the Frenchmen ran into the pagoda to carry the intelligence, while the other three surrendered and followed Clive towards the rest-house, whither he now hastened with the intention of attacking the sepoys there, whom he now knew to be enemies; but they had already discovered the danger of their situation and marched off. Clive then stormed the temple where he had been challenged by the six Frenchmen; but the English deserters fought desperately and killed an officer and fifteen men of Clive's force, and the attack was accordingly ordered to cease. At daybreak the officer commanding the French, seeing the danger of his situation, made a sally at the head of his men; but he was received with a heavy fire which killed him and the twelve others who first came out of the gateway. The rest ran back into the temple. Clive then advanced into the porch of the gate to parley with the enemy and, weak with loss of blood and fatigue, stood with his back to the wall of the porch leaning forward on the shoulders of two sergeants. The officer of the English deserters conducted himself with great insolence, told Clive in abusive language that he would shoot him, raised his musket and fired. The ball missed Clive, but the two sergeants fell mortally wounded. The Frenchmen, who had hitherto defended the temple with the English deserters, thought it necessary to disavow an outrage which would probably exclude them from any pretensions to quarter, and immediately surrendered.

It appears from an inscription in the Jambukeswaram temple on Srīrangam island that the Bhojeswara temple in Samayapuram was founded by a Hoysala Ballāla king; and Kannanūr is itself identified as the site of Vikramapura, the Hoysala capital in the Chola country in the thirteenth century. The name Bhojeswara is considered to be a corruption of the original Poysaleswara (or Hoysaleswara), which owes its origin

to a confusion between the long-forgotten Hoysala king and the better-known king Bhoja of the Paramāras in Central India, who never had any connexion with this country. In the Jambukeswaram inscription king Vīra Someswara mentions '[the image of] the Lord Poysaleswara which we have set up in Kannanūr, *alias* Vikramapuram'; and the south wall of the Kannanūr temple bears an inscription of the Hoysala king Vīra Rāmanātha Deva (son of Someswara) in which the temple is called Poysaleswara, 'the Iswara [temple] of the Poysala [king].' There is also a copperplate edict of Vīra Someswara in the Bangalore Museum which was issued on March 1, A.D. 1253, the day of an eclipse of the sun, 'while [the king] was residing in the great capital named Vikramapura, which had been built in order to amuse his mind in the Chola country, which he had conquered by the power of his arm.'

Srīrangam.—Town in Trichinopoly District, Madras, situated in 10° 52′ N. and 78° 42′ E., 2 miles north of Trichinopoly city and almost in the centre of the island formed by the bifurcation of the Cauvery into the two branches known as the Cauvery and the Coleroon. At the western (upper) end of the island is the Upper Anicut, and at the eastern end the Grand Anicut, described in the article on the CAUVERY. The island is about 19 miles in length, and in its widest part about 1½ miles broad, the soil being alluvial and very fertile. It is, however, subject to inundations from the Cauvery and Coleroon, especially at its lower (eastern) end. The trunk road to Madras runs northwards from Trichinopoly across the island, connecting the land on either side by fine bridges. The island (see TRICHINOPOLY DISTRICT) played a considerable part in the wars of the eighteenth century.

Srīrangam was made a municipality in 1871, and comprises several villages, of which Srīrangam and Jambukeswaram are the most important. The population, which has doubled in the last thirty years, is (1901) 23,039, of whom as many as 22,834 are Hindus, Musalmāns numbering only 42, and Christians 163. The income and expenditure of the municipality during the ten years ending 1902–3 averaged about Rs. 28,000. The income in 1903–4 was Rs. 33,800, mostly derived from the taxes on land and houses, and the expenditure was Rs. 35,100. The municipality maintains a hospital, which accommodates 24 in-patients and has a maternity ward with four beds. The buildings now in use were repaired and terraced by Rājā Sir Savalai Rāmaswāmi Mudaliyār in 1886 at a cost of Rs. 10,000, the former buildings having been

damaged by fire in 1884. Preliminary surveys for a drainage scheme for the place are in progress.

The town is chiefly famous for its great temple dedicated to Vishnu. The temple and the town are indeed almost conterminous, the greater portion of the houses having been erected inside the walls of the former. The temple is the largest in Southern India, and consists of seven enclosures one within the other, the outermost wall of the seventh measuring 1,024 yards by 840. In the centre of the innermost enclosure is the shrine of Ranganāthaswāmi, who is represented as reclining on the folds of the serpent Adisesha and screened by his hood. The dome over the shrine has been recently repaired and richly gilt. None but Hindus can enter the inner three enclosures. The fourth, in which is the thousand-pillared *mantapam* or hall, measures 412 yards by 283. This hall of a thousand columns measures 450 feet by 130 and contains some 940 pillars, being incomplete in parts. It is the Darbār Hall of the deity during the annual Vaikunta Ekādasi festival, which takes place in December or January. A large *pandal* or covered enclosure is then erected in front of it, and the processional image is brought to it from the inner shrine through the northern entrance of the second enclosure, called the Paramapadavāsal or the 'gate of heaven,' which is only opened on this one occasion in the year. In booths round the *pandal*, which is handsomely decorated, various figures of gods and mythical personages and other articles are exposed for sale. In front of the thousand-pillared *mantapam* is a smaller hall, called Seshagiri Rao's *mantapam*, in which there are some fine carvings in stone[1]. As usual, the temple possesses many jewels, some of which are good specimens of goldsmith's work. The various pieces of armour which cover the idol from head to foot are perhaps the best, the others being of a type familiar at Southern India temples. Several of the oldest were given by Vijayaranga Chokkanātha, Naik of Madura. There is also a gold plate presented by the present King-Emperor when he visited the place as Prince of Wales in 1875. European visitors, on giving sufficient notice, are generally allowed to see the jewels, or, at any rate, some of them, by the courtesy of the trustees.

Over the entrances to the fourth enclosure are three *gopurams* (towers), of which the eastern is the finest. It

[1] Drawings of these and other portions of this temple and of that at Jambukeswaram will be found in the *Journal of Indian Art and Industry*, vol. viii (1899).

is known as the *vellai* or 'white' *gopuram* and is 146½ feet in height. There is at present no gate or *gopuram* on the western side of this enclosure. Tradition states that one formerly existed, but that it was blocked up because the people living near used to enter by that way and commit thefts in the temple. The outer three enclosures are crowded with houses and bazars.

Mr. Fergusson points to this temple as the most conspicuous illustration of the way in which many South Indian temples have gradually grown up around a small central shrine. The various stages of circumvallation represent successive increases in the wealth and popularity of the shrine, and there is a corresponding increase in the size and ornamentation of the outer buildings as compared with those within. It may be added that the temple does not seem to have been completed in the manner intended by the last of its series of builders. The outer wall contains four unfinished *gopurams*. That on the southern side, which is the first seen by visitors from Trichinopoly, is of large proportions and, if completed, would have risen to the height of 300 feet. This unfinished but gigantic structure is perhaps the most impressive object in the whole temple.

Several saints are reputed to have resided here, and the images of some of them are set up in different parts of the enclosure. The Hindu reformer and philosopher Rāmānuja lived and died here early in the twelfth century. The inscriptions on the walls go back to the first half of the tenth century, to the reign of the Chola king Madurai-konda Ko Parākesarivarman, *alias* Parāntaka I, but the greater portion of the temple can hardly have been constructed as early as this. An inscription of Sundara Pāndya recites that he took Srīrangam from a king who is called the moon of Karnāta, and plundered the capital of Kāthaka. A similar incident is recounted in the Tirukkalikkunram and Jambukeswaram inscriptions. The Kāthaka king can hardly refer to a king of Cuttack, the most obvious explanation, but probably describes the noted chieftain Kopperunjinga, who had great power in the Carnatic at this time. The moon of Karnāta was the Hoysala king Someswara (literally the 'god of the moon'), who, having conquered the Chola country, built a city called Vikramapuram 5 miles to the north of Srīrangam. The site of this city is the present Samayapuram. The Sundara Pāndya of the inscription has been identified, by a copperplate grant of Someswara dated in 1253, with Jatāvarman Sundara

Pāndya Deva, who ascended the throne in 1250 or 1251. Other inscriptions relate to the Chola, Pāndya, Hoysala, and Vijayanagar dynasties.

About half a mile to the east of the Vishnu pagoda is another remarkable temple, dedicated to Siva, and known by the name of Jambukeswaram. It is a compound of the words Jambu, the Sanskrit name of the tree known in Tamil as *nāval* (*Eugenia Jambolana*), and Iswara, a name of Siva. The image of the deity is placed under a *jambu* tree, which is much venerated and is said to be several hundred years old. The image is also known as one of the five elemental *lingams*, the element in this case being water, which surrounds the *lingam* on all sides. Mr. Fergusson considers that this building far surpasses the Vishnu temple in beauty and as an architectural object, and thinks that, being all of one design, it was probably begun and completed at one time. There are five enclosures in the building. In the third is a coco-nut grove, in which is a small tank and temple, whither the image from the great Vishnu pagoda was formerly brought for one day in the year. This practice has been given up, owing to quarrels between Saivites and Vaishnavites. Traces of a wall, which was built in consequence to mark the boundary between Srīrangam and Jambukeswaram, are still visible. In the fourth enclosure, which measures 812 yards by 497, is a large hall with 796 pillars, and to the right of it a little tank with a gallery round it in which are 142 columns. The tank is fed by a perpetual spring. The fifth or outer enclosure contains four streets of houses. Inscriptions seem to show that the temple was in existence about A.D. 1000.

Trichinopoly City (*Tiruchchināppalli*).—Head-quarters of the District and *tāluk* of the same name, Madras, situated in 10° 49′ N. and 78° 42′ E., on the right bank of the Cauvery river, 195 miles from Madras by road and 250 miles by the South Indian Railway. It is the third most populous town in the Presidency. It once held the second place, but at the Census of 1901 Madura outstripped it, although during the decade ending with that year its inhabitants increased by 16 per cent. Out of the total population of 104,721, 76,927 are Hindus, 14,512 Christians, and 13,259 Musalmāns. In 1891 its inhabitants numbered 90,609; in 1881, 84,449; and in 1871, 76,530. The fact that it is an important railway junction has had much to do with its rapid growth.

Trichinopoly is a very ancient place. Popular legend carries its history back beyond the days of the Rāmāyana. Later,

the capital of the Chola kingdom was once at Uraiyūr, a suburb of the town which is identified with the Ὄρθουρα mentioned by the Greek geographer Ptolemy (about A.D. 130). The local Purāna or history contains a story of the destruction of Uraiyūr by a shower of sand. There was a flower garden, says the tale, on the Trichinopoly Rock, in which the sage Sāramuni raised *sevvandi* (chrysanthemum) flowers for the worship of Siva. A gardener stole some of the flowers and presented them to the Chola king Parāntaka daily. When the theft was discovered and the gardener was arraigned before the king, the latter pardoned him. Siva was very wroth thereat, and turned his face towards Uraiyūr and rained sand on it. The king and queen fled, and as they ran he was buried in the storm of sand; she fell into the river, but was washed ashore and protected by a Brāhman. She gave birth to a son who was afterwards called to the throne, and was identified as the rightful heir by an elephant and was consequently called Karikāla. It has been surmised that this account has reference to a Pāndyan invasion. The king Parāntaka is probably Parāntaka II, whose son was Aditya II, *alias* Karikāla, reigning in the tenth century.

Inscriptions have been found in the Srīrangam and Jambukeswaram temples which show that as late as the fifteenth and sixteenth centuries descendants of the Chola dynasty reigned at Uraiyūr as vassals of Vijayanagar. In the thirteenth century the Hoysala dynasty appears to have held sway here for a time, with its provincial capital at Samayapuram. The Musalmāns succeeded in the fourteenth century, and then the Vijayanagar dynasty. During the rule of the Naiks of MADURA, Trichinopoly was an important place and for some time their capital. The founder of that dynasty, Viswanātha Naik, is supposed to have fortified the town and constructed the Teppakulam reservoir. One of his successors, Chokkanātha, erected the building known as the Nawāb's Palace, obtaining the necessary materials by demolishing portions of the famous Tirumala Naik's palace at Madura. The building is also known as Mangammāl's Palace after the Naik queen of that name.

In the Wars of the Carnatic, Trichinopoly (see TRICHINOPOLY DISTRICT) was the scene of frequent hostilities between the English and the French. After the country was ceded to the Company it continued for many years to be an important military station. Troops were first stationed within the fort, next at Uraiyūr, and subsequently in the present

cantonment. The cantonment was formerly garrisoned by European and native regiments; but in 1878, when the Afghān War broke out, the whole of the European contingent was removed and the garrison subsequently reduced to two regiments of native infantry. At present it consists of one regiment and a part of another. The fort is rectangular, measuring about a mile by half a mile, and was originally surrounded by ramparts and a ditch, but the walls have now been levelled and the ditch filled in. The streets in this part of the town are narrow but fairly regularly laid out.

Trichinopoly was constituted a municipality in 1866. The municipal limits include the cantonment and the fort as well as several other revenue villages. The municipal council consists of 24 members, of whom 8 are elected and 15 nominated by Government, one of the latter being a military officer to represent the cantonment. The divisional officer is *ex officio* a councillor. The income averages about Rs. 1,50,000, and latterly the expenditure has exceeded the receipts, in consequence of the outlay incurred from borrowed money on the water-supply scheme. In 1903–4 the income amounted to Rs. 1,91,600, chiefly derived from the taxes on land and houses, and the expenditure was approximately equal to it. The water-works have cost about 8 lakhs, and loans were raised to the amount of Rs. 3,89,500. The supply is derived from wells and filter-beds laid in the bed of the Cauvery nearly a mile above the city, and the water is pumped up by steam and conducted into the city by pipes. The introduction of the supply has had a marked effect on the public health, and has practically abolished cholera, which was formerly the scourge of the place. The works are, however, liable to severe damage when the Cauvery is in flood, sometimes necessitating a return to the old tainted sources of supply. The problem of rendering them strong enough to resist floods is still under consideration; meanwhile the necessity for continued repairs is a severe drain on municipal revenues.

The most interesting object in the city is the famous Rock. It stands within the fort, rising sheer from the plain to a height of 273 feet above the level of the streets at its foot. The ascent is by a covered stone staircase, the entrance to which is on the south side. On each side of the gateway are stone figures of elephants, and the passage itself is lined with pillars with carved capitals. At the head of the first flight of steps a street runs completely round the Rock, by the side of which

houses have been built. It is used for religious processions, and is connected with the street round the foot of the Rock on the eastern side. From the street opens a hall, on the left of which is a small shrine to Ganesa. A second series of steps leads out of this hall through an exit ornamented with statues of *dwārāpālakas* ('gatekeepers') on each side. On ascending these, a second landing is reached, on each side of which is a large hundred-pillared *mantapam* or hall, that on the left being used twice a year for the reception of the idol belonging to the main temple. More steps lead to a third landing, to the left of which is a small room for the temple records and in front another shrine to Ganesa. The ascent now turns sharply to the left and then to the right, terminating on a fourth landing giving access to the main temple. None but high-caste Hindus may enter this, but a view of a portion of the antechamber can be obtained from the landing. The steps now emerge into the open air, passing on the left a chamber hewn out of the rock and covered with Sanskrit inscriptions. This chamber was used as a magazine by the British during the siege, and has recently been opened out. The carvings appear to be of Buddhist origin, and are probably not later than the fifth or sixth century. Two short flights lead to a building to which the temple deity is taken once a year, and to a platform on the shoulder of the Rock, whence the top is reached by a final series of steps which are cut in the face of the Rock. On the top is a third small shrine dedicated to Ganesa. This is surrounded by a gallery from which a fine view of the fort, the town, the Cauvery, Srīrangam island, and the adjacent country is obtained. At a corner of this gallery, overlooking the great temple, a narrow door leads on to a small platform from which a view is obtained of the *kalasam* or golden covering over the central shrine of the temple. Beneath can be seen, sculptured in relief on the surface of the Rock, two footprints which Hindus believe to have been made by Vibhīshana, the brother of Rāvana and the ally of Rāma. The Musalmāns, however, claim the footprints as those of the saint Nādir Shāh Auliya, who took up his residence on the Rock but was ejected by the god of the place.

At the foot of the Rock, on the north-eastern side, is a row of low buildings with semicircular arched roofs, said to be old bomb-proof barracks, and farther to the east a portion of the former outworks of the fort, the line of the walls being indicated

by the open space surrounding the town. A representation of the Rock is sculptured on a tablet to Major Lawrence in Westminster Abbey. The deity in the main temple on the Rock is callėd Mātrubūtheswara in Sanskrit and Tāyumānavar in Tamil, from his having assumed the guise of a mother to attend on a helpless woman in childbed, her mother having been detained by floods on the other side of the Cauvery. When the floods subsided, the mother came across, and the woman and her husband were much puzzled as to who her double could have been. Siva then appeared in his real form and blessed them. This curious legend, and also that of Sāramuni, are painted panoramically on the inner wall of the temple.

Near the foot of the Rock is the Teppakulam, a large masonry tank or reservoir with a small but graceful *mantapam* in the centre. Overlooking it at the south-west corner is the main-guard gate, a substantial piece of masonry, from the top of which is the best view of the Rock as a whole. Distinguished visitors to the town are entertained by being taken to this point to see the Rock and the great tank outlined with thousands of lamps, an impressive scene. The place was similarly illuminated at the two jubilees of the late Queen-Empress and on Coronation Day.

The Nawāb's Palace, a part of which is now used as a town-hall and part as public offices, is situated close to the Rock. The portion used as the town-hall was formerly the audience hall, and is a fine building of plain and massive architecture, surmounted by an octagonal dome and surrounded with colonnades. These last are perhaps, however, rather too squat to make an effective base for the dome. In front of the Nawāb's Palace is the Coronation Garden, with the Wenlock Fountain within.

Overlooking the Teppakulam at its south-east corner is a house once the residence of Clive, which is now occupied by St. Joseph's College. To the north-west of the Rock is Christ Church, founded by the famous missionary Swartz. His house is close by. Near the Fort railway station is what is known as Chanda Sāhib's tomb. It is in the Nādir Shāh mosque, wherein are buried the remains of Nādir Shāh Auliya, a saint who is reputed to have come here from Constantinople, and of one of his disciples, a lady. The railings round the tomb are pierced metal-work of a curious design. The building appears to have been constructed from the materials of Hindu temples, the head of a *lingam* having been converted into a lamp-post.

The entrance hall to the mosque is clearly an old Hindu *mantapam* left almost in its original state. Chanda Sāhib built the dome over the edifice and his remains are interred close to the building, while the remains of his rival Muhammad Alī and of the members of his family are in the veranda and in a room attached thereto. There are Persian inscriptions on the walls of this building and of the mosque.

Besides the water-supply, the municipal council has built for the city a market in the fort and a hospital to the south of it. In front of the market are a clock-tower, the Diamond Jubilee Park, and the arch erected in commemoration of the visit of the present King-Emperor when Prince of Wales. The hospital has an endowment of Rs. 12,000 raised by public subscription in 1863, and also receives an annual grant of Rs. 4,500 from the District board. It has a maternity ward, a ward for high-caste patients, and a dispensing room for women and children, under the charge of a lady apothecary trained by Lady Dufferin's Fund.

Trichinopoly is one of the great educational centres in the south of the Presidency. It contains two first-grade colleges, maintained by the Jesuit Mission and the Society for the Propagation of the Gospel. The former, known as St. Joseph's College, was originally established at Negapatam in 1844 and was removed to Trichinopoly in 1883. The present building was opened in 1886. The Catholic cathedral, a fine edifice, has been recently completed. Attached to the institution is a large boarding-house for native Catholic students, as well as lodgings for Brāhman and high-caste Hindus and hostels within the college compound. The S. P. G. College, which is a development of various schools founded by Swartz, was raised to a first-grade college in 1883. There is a hostel for Hindu students upon the college premises, and hard by is another bearing the name of Bishop Caldwell and intended mainly for Christian students from Tinnevelly. The proselytizing activity of the Jesuit Mission led to the establishment in 1886 of the National high school in the interests of the Hindu community.

Turaiyūr.—Town in the Musiri *tāluk* of Trichinopoly District, Madras, situated in 11° 10′ N. and 78° 36′ E. It has a population (1901) of 12,870 and is a rapidly growing place, containing the head-quarters of a deputy-*tahsīldār* and sub-magistrate, and being the chief town of the *zamīndāri* of the same name. It is picturesquely situated near the Pachaimalai Hills, and not far from the Kollaimalais in Salem. The most noticeable objects in the town are the large reservoir with stone

steps and parapet walls, on which the floating festival is held, the god being taken round it on a raft; and the irrigation reservoir close by, in the centre of which is a curious building, three storeys high, in which the *zamīndār* used formerly to spend short periods when the reservoir was full of water. The building is now out of repair and rapidly falling into ruins, which is unfortunate, as it is a picturesque example of a semi-Moorish style of architecture.

The Turaiyūr *zamīndāri* has had a very chequered career, which is typical of the fortunes of many similar properties in Southern India. During the siege of Trichinopoly in 1752 a detachment of the Mysore army assisted by some French troops overran the estate, deposed the reigning chieftain, and put one of his cousins in his place. In 1755, this new chief having neglected to pay his tribute, a detachment of French troops and sepoys from PONDICHERRY took the town, deposed him, and reinstated his predecessor. In 1756, however, the *zamīndār* again failed to pay his tribute and was accordingly deposed by the French, his immediate predecessor taking his place. In 1758 Captain Calliaud sent a detachment under Captain Smith to restore the chief whom the French had last expelled, as he was befriended by the chiefs of Ariyalūr and Udaiyārpālaiyam, who had always been bitter opponents of the French. Turaiyūr was captured after some spirited skirmishing in the woods which then surrounded the place. The expelled chief was again reinstated and five companies of sepoys were left to protect him. The chief who had been ejected by Captain Smith escaped to Mysore. When, however, at the end of 1758, some of the troops had to be withdrawn from Turaiyūr, he took advantage of the opportunity to capture the town. He then submitted to the Nawāb, who confirmed him in the possession of the estate. In 1773 the Turaiyūr chief quarrelled with his son, who, fearing that his father had a design on his life, left the country and proceeded to Madras to lay his case before the Nawāb. The Nawāb took the opportunity of raising the tribute, and in the competition between father and son it was enhanced from $1\frac{1}{2}$ to $2\frac{3}{4}$ lakhs in twenty years. In 1795, however, the father and the son became reconciled, and, seeing that they could not possibly meet the Nawāb's demands, left the country and took refuge in Tanjore, where the former died. In 1796 the son collected a number of men and laid the estate waste. Eventually an agreement was come to between him and the Nawāb, by which he retired to Tanjore on a monthly allowance of Rs. 1,000,

with power to levy an assessment on the inhabitants of Turaiyūr not exceeding 25 per cent. of the amount of revenue collected by the state. This arrangement continued in force till the assignment of the Carnatic to the Company. As a preliminary step to the grant of a *sanad* (title-deed) to the chief, the estate was placed under the management of the Collector with a view to ascertain its income, and the chief was allowed 10 per cent. of its net revenue. In 1816 it was decided that he should not be restored to the possession of the entire estate, but should receive only the village in which he lived together with a number of other surrounding villages of an annual value equal to 10 per cent. of the gross collections. For this he paid the nominal *peshkash* of Rs. 700. A *sanad* was issued to him in 1817. The family is of the Reddi caste and of Telugu extraction. The *zamīndāri* has recently been declared impartible.

Udaiyārpālaiyam Town.—Town in the *tāluk* of the same name in Trichinopoly District, Madras, situated in 11° 11′ N. and 79° 18′ E. Population in 1901, 7,553, compared with 7,739 in 1891 and 5,703 in 1881. The town is the place of residence of the *zamīndār* of the same name, and the drop in the population in 1901 was due to his being absent, with a considerable following, at the time of the Census. The *zamīndār* is of the Vanniya caste, and his ancestors held the estate as *arasu-kāvalgārs* or 'heads of police.' Like so many other similar chiefs, they experienced many vicissitudes of fortune during the wars of the eighteenth century and the rule of the Nawāb of the Carnatic. At the time when Trichinopoly District was handed over to the East India Company in 1801 the *zamīndār* was in receipt of a monthly allowance of Rs. 1,000, and the estate was under the management of an agent of the Nawāb. In 1817 the British Government restored to him a portion of the estate, the annual value of which was equal to 10 per cent. of the gross revenue, required him to pay a nominal *peshkash* of Rs. 640, and gave him a *sanad* (title-deed). The *zamīndāri* has recently been declared impartible.

The palace of the Udaiyārpālaiyam *zamīndār* is a remarkable building. It is very dilapidated in parts, and some incongruous new portions have been added; but even with these defects it contains decorative work which has been thought to be among the finest in Southern India. It looks like work of the seventeenth century, is executed in rather soft stone, and was probably designed under Muhammadan influence. There is a polygonal watch-tower and some balustrade work on the outside; but the interior is the finest part. One of the big halls is in general

design something after the fashion of Tirumala Naik's famous hall in Madura; but the spandrels of the arches are one mass of carving of birds, flowers, &c., showing fancy and spirit, while the arches themselves are worked out in tracery, with a niche above each column containing some god or saint. Above the level of the spandrels is a deep colonnade running round the whole hall, corresponding to the clerestory of an English cathedral, also one mass of spirited carving in relief. Some equally fine woodwork is said to exist within the palace. The building deserves careful study from an historical and architectural point of view.

Uyyakondāntirumalai.—Village in the *tāluk* and District of Trichinopoly, Madras, situated in 10° 49′ N. and 78° 37′ E., about three miles west of Trichinopoly city. Population (1901), 1,550. It possesses an ancient temple, containing many old inscriptions, built on a small rock about 30 feet high which was once fortified. The peculiarity of the fortification is that the rock is surmounted by a circular bastion, the raised terrace of which supports the temple buildings. The rock is enclosed by a square stone wall carried up as high as the rock itself, and built thick enough to afford a rampart inside, about 5 feet in breadth, with a slender parapet with loopholes to fire through. An outer court is surrounded by walls nearly as high as those of the inner line, and the entire enclosure measures 200 yards by 100. The bastion is in good condition, but the wall is becoming dilapidated in parts. Marks of cannon balls are visible on the eastern face.

Being so close to Trichinopoly this fortified temple was a point of strategic importance in the military operations of 1753, being occupied in turn by each of the forces engaged. The historian Orme calls the place Weycondah. When the Mysore army, assisted by the French, were blockading Trichinopoly on every side, Captain Dalton undermined the temple and fort one dark night, and tried to blow it up in order to deprive the enemy of the use of it while the English garrison was engaged in the fort. But the explosion was not successful, and the Mysore army, finding that the fortifications had been but little injured, took possession of them. Captain Dalton surprised the Mysore army by another night attack, marching close to their tents and making a general discharge among them before being challenged. The English sepoys seized some of the garrison's horses and arms, and the party effected a retreat before the enemy were sufficiently roused to do more than fire a few shots at random. On August 23, 1753,

Major Lawrence attacked the enemy at Uyyakondāntirumalai, where they had entrenched themselves in a strong position, and compelled them to retreat in disorder. The English took possession of the place, but Major Lawrence had to abandon it almost immediately. It was then seized by the French. Immediately after the battle of the Sugar-loaf Rock (September 21) Major Lawrence marched against it and carried it by assault. In the course of this action a sergeant of a company of sepoys distinguished himself by clambering over the gate on the shoulders of one of his men.

MADURA DISTRICT

Boundaries, configuration, and hill and river systems.

Madura District (*Madurai*).—A District in the southern portion of the east coast of the Madras Presidency, lying between 9° 6′ and 10° 49′ N. and 77° 11′ and 79° 19′ E., with an area of 8,701 square miles. It consists of a section of the plain stretching from the eastern slope of the mountain range of the WESTERN GHĀTS to the sea, and includes the drainage basin of the VAIGAI river. Part of its south-western and western border abuts on the Western Ghāts, here known as the Travancore Hills, which divide the District from the Native State of Travancore; and the north-western boundary runs over the highland plateau which separates two other sections of the same range, the ANAIMALAIS and the PALNI HILLS, from one another. The Palnis lie wholly within the limits of the District and are its most notable mountains. On the north Madura is bounded by the Districts of Coimbatore and Trichinopoly and the Native State of Pudukkottai; on the north-east by Tanjore; on the east and south-east by the waters of PALK STRAIT and the GULF OF MANAAR; and on the south and south-west by Tinnevelly District.

Its general aspect is that of a level plain, sloping gradually to the sea on the south-east and bisected by the channel of the Vaigai river. To the west this plain is broken by the Palni Hills and other smaller spurs and outliers of the Western Ghāts, and by isolated hills and masses of rock scattered throughout. The Palnis project across this part in an east-north-easterly direction for a distance of 54 miles, and are about 15 miles wide on an average. To the south, and almost parallel with these, the Varushanād Hills and the Andipatti range also run out from the Western Ghāts in a north-easterly direction. They extend for a distance of 40 miles, and between them and the Palnis lies the upper portion of the valley of the Vaigai, known as the Kambam Valley. This is kept well wooded and green by the perennial streams which flow down into it from the slopes of the adjoining hills, and, except in the feverish season, it is one of the pleasantest parts of the District. Farther east, and altogether separate from the ranges already described, is a confused series of smaller lines of hills, known

respectively as the Sirumalais, the Karandamalais, the Nattam, and the Alagar hills. The highest peak among these attains an elevation of nearly 4,400 feet. On the Sirumalais fruit is largely grown and there are several coffee estates, but the range is almost uninhabited on account of the malignant fever which lurks in its slopes. Among isolated hills may be mentioned the ancient rock fortress of DINDIGUL, the Anaimalai ('elephant hill'), the Pasumalai ('cow hill'), and the Skandamalai, sacred to the god Subrahmanya. The last three are in the neighbourhood of MADURA CITY, the head-quarters of the District.

The river system of the District is of a simple character. The principal stream is the Vaigai already mentioned, which has its origin in the Varushanād Hills. Near the village of Sholavandān this bends to the south-east, and thence flows right across the centre of the District and empties itself into the sea at Attankarai, east of RĀMNĀD. Next in importance are the Gundār and the Varshalei. The former rises in the Varushanād and Andipatti hills, and flows in a direction nearly parallel to the Vaigai. At KAMUDI it is crossed by a massive earthen dam, and a channel is taken off which irrigates part of the Mudukulattūr *tahsīl*. The Varshalei drains the eastern slope of the Nattam Hills, flows past TIRUPPATTŪR, and enters the sea by several mouths between Uriyūr and Tondi. The northern slopes of the Palnis are drained by a lesser system of rivers, which flow northwards in almost parallel courses. The principal of these are the Amarāvati, the Shanmukhanadī, the Nangānji, and the Kodavanār. All of them are drainage channels rather than perennial rivers. In the rainy season they come down in headlong torrents, but for most of the year they dwindle into trickling streams.

The rocks of Madura District consist chiefly of foliated Geology. biotite gneiss, probably in reality a gneissose granite, in which are masses of granular quartz rock, also probably of igneous origin. At certain localities, such as Pandalugudi and Tirumāl, bands of coarsely crystalline limestone occur in the gneiss. Charnockite is found in the western part of the District, the Palni Hills being entirely composed of that rock. In the Varushanād Hills are hornblende schists and granulites, penetrated by veins of mica-bearing pegmatite. Sub-recent calcine grits of marine origin form a fringe along the coast from CAPE COMORIN to the channel between the mainland and the island of PĀMBAN. Laterite covers a considerable part of the District. Further particulars will be found in Mr. Bruce

Foote's account in the *Memoirs of the Geological Survey of India*, vol. xx.

Botany. The botany of the central portion of the District presents no points of special interest. Along the coast occur areas covered with the red-sand wastes (*teris*), which are so extensive in Tinnevelly, and with brackish swamps. These exhibit the flora characteristic of such tracts. The most interesting region botanically is the Palni range. Dr. Wight visited this in 1836 and recorded his observations in the *Madras Journal of Literature and Science* the next year. He says that in the course of about fifteen days he collected little short of 1,500 species of plants; and he thought that the flora of the hills would be found on examination to include almost four-fifths of the whole flora of the Presidency, and to present a vast number of species peculiar to the locality. In the same journal for 1858, Colonel Beddome published a list of more than 700 species of plants (exclusive of Compositae, Gramineae, and Cryptogams not determined) which he found on this range. It is thus evident that the locality is well worthy of detailed examination by botanists.

Fauna. The hills to the west contain all the larger game usually found in such localities: namely, tiger, leopard, bear, elephant, bison (*gaur*), Nīlgiri ibex, *sāmbar*, and spotted deer. The opening up of neighbouring areas to the planting of coffee and the ravages of wild dogs and native *shikāris* are, however, reducing the game. In the plain country antelope are common, especially towards the sea.

Climate and temperature. The climate is hot, dry, and variable. There is no real cold season in the plains, but the air is pleasantly cool from November to February. The mean annual temperature at Madura city is 84°, compared with 83° at Madras. It is considerably less on the island of Pāmban, at places like Dindigul, and in the Kambam Valley. The climate of the upper Palnis is probably one of the finest in India, resembling that of the Nīlgiris. The District is not regarded by the natives as healthy, on account of the prevalence of malarial fever.

Rainfall. The annual rainfall of the District as a whole, omitting the Palnis, usually varies from 26 to 36 inches, averaging about 30 inches. Of this more than half is registered during the north-east monsoon in the last three months of the year, about one-fourth during the four months of the south-west monsoon from June to September, and only one-seventh during April and May. The distribution, however, varies very considerably in different parts of the District, especially during the south-

west and north-east monsoons. During the first three months of the year, for example, the heaviest rain is to be expected along the sea-coast and among the hills that enclose the valleys in the west. The early showers of April and May are usually fairly abundant in the latter tract, while they decrease in amount eastwards and towards Tinnevelly. In the south-west monsoon the only portion of the District which usually receives a fair supply is the centre. During the north-east monsoon the rainfall on the coast in the RĀMNĀD ESTATE is very heavy, and over the rest of the District is considerable. Speaking generally, the supply is much below the average only in the part adjoining Tinnevelly, while in the central and eastern parts it is above the normal.

The famines from which the District has suffered are referred to below. Other natural calamities have been few. The worst were a cyclone in 1709, which did great damage, and the floods which followed the 1877 famine in the Rāmnād estate. In December, 1877, the Gundār river rose to a great height and flooded parts of Tiruchuli village, swept away a thousand yards of the embankment near Kamudi lower down, and then made for the sea, breaching nearly every tank in the south-west of the *zamīndāri* and covering the whole country with one broad sheet of water.

Perhaps no District in the Presidency can boast of a more continuous ancient history than Madura. Together with Tinnevelly and portions of Travancore State and Trichinopoly, it formed the dominion of the PĀNDYAS, who are said to have taken their name from Pāndu, the father of the Pāndava brothers, the heroes of the Mahābhārata War, and whose kingdom is known to have existed 300 years before the beginning of the Christian era. About the tenth century A.D., as is attested by numerous inscriptions and coins, the country passed under the CHOLAS, but it reverted to the Pāndyas some 300 years later. In 1310, like the rest of South India, it was raided by Malik Kāfūr, the general of Alā-ud-dīn of Delhi; but shortly afterwards, in 1372, the Muhammadans were driven out by the kings of Vijayanagar, who had just begun to establish themselves in power. Thereafter, for nearly 200 years, the history of the country is fragmentary and confused until, in the middle of the sixteenth century, the famous Naik dynasty of Madura came into prominence and ruled for 200 years. Viswanātha Naik, the founder of this line, was apparently the son of an officer of the Vijayanagar kings. He is said to have fortified Madura, bought Trichinopoly from the

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king of Tanjore, and quelled a formidable rebellion in Tinnevelly. He kept the local chieftains contented and the country quiet by founding in Madura and Tinnevelly what was afterwards known as the *poligār* system, under which the direct government of his possessions was entrusted to local chieftains, called *poligārs*, whose powers were almost absolute in their own districts so long as they paid their suzerain a certain tribute and provided a stated military force for service when called upon. These *poligārs* figured largely in subsequent history, and some of their descendants are still *zamīndārs* of their original grants.

The greatest of the Naik dynasty was the famous Tirumala, the remains of whose buildings, especially his palace, the most splendid of its kind in Southern India, attest the magnificence of his tastes. Besides the present District of Madura, his territories comprised Tinnevelly, Trichinopoly (including Pudukkottai State), Salem, Coimbatore, and a portion of the State of Travancore. His gross revenue is said to have exceeded a million sterling. He had a leaning towards Christianity; and during his reign Robert de Nobili, the famous Jesuit, with his direct countenance and assistance, founded an important mission in Madura and made many converts.

On Tirumala's death in 1659 the kingdom began to break up. His successors were weak rulers; Muhammadan intrigues and invasions commenced; Sivajī, the founder of the Marāthā power in India, began his raid to the south; and Chikka Deva Rājā, king of the rising dynasty of Mysore, invaded Madura and soon after invested Trichinopoly. The one redeeming feature of this period of confusion and anarchy was the regency of queen Mangammāl, the most remarkable personage, next to Tirumala, in Madura history. The roads and avenues which she made and the choultries and temples which she built keep her name in grateful remembrance to this day.

Meanwhile the Nawābs of ARCOT had become powerful enough to attack the south, and Chanda Sāhib, son-in-law and chief minister of the Nawāb, Dost Alī, obtained Trichinopoly by cunning and Madura by force. The Naik ruler of the time thereupon called in the aid of the Marāthās of Sātāra in Bombay; and in 1739 they marched south, defeated and killed Dost Alī at the Pass of Damalcheruvu between North Arcot and Cuddapah, levied an enormous indemnity from his son, captured and carried off Chanda Sāhib to Sātāra, overran Madura and Trichinopoly and put Marāthā governors

in charge of both of them. This is the last scene in the history of the Madura kingdom. Henceforth it was split up into a number of small principalities which had no connected existence.

In 1743 the Sūbahdār of the Deccan drove out the Marāthās, and the country again came nominally under the rule of the Nawābs of Arcot. Twelve years later, the English first appeared upon the scene. Major Heron marched south to force Madura and Tinnevelly to acknowledge the Nawāb, Muhammad Alī, the Company's chief motive in sending him being the expectation that the tribute the Nawāb would thus obtain would help him to repay the money he owed for assistance in the Carnatic Wars. Little resistance was met with, and Madura and Tinnevelly Districts were taken and were rented for 15 lakhs to Mahfūz Khān, the Nawāb's brother. The disorderly behaviour of the *poligārs* and the Kallans (the Colleries of Orme) prevented him, however, from realizing his dues, and the Company therefore sent Muhammad Yūsuf, its commandant of sepoys, to assist him. The latter restored order to some extent, but in his turn rebelled, and was accordingly attacked by the Company's troops and taken and hanged in 1764. Anarchy and confusion once more followed, until in 1783 Colonel Fullarton marched into the country with a considerable force and finally quieted it. In 1790 the first English Collector of Dindigul was appointed, and in 1801 the rest of Madura was ceded to the Company in accordance with the treaty of that year with the Nawāb of Arcot.

The subdivision of Dindigul, which had for long been part of the possessions of the kingdom of Mysore, had been previously (in 1790) acquired by conquest from Tipū Sultān. The history of the *zamīndāris* of RĀMNĀD and SIVAGANGA, of which a sketch is given in the article on the former, also differs somewhat from that of the District proper. From the beginning of the nineteenth century the political history of Madura as it now stands merges into the story of revenue administration described below.

Archaeology.

On the Palnis are found a large number of prehistoric dolmens or burial cairns. Evidence of a reliable nature shows that Greek and Roman soldiers served under the Pāndya kings; and from the fact that Roman coins have been found in large numbers in the bed of the Vaigai, it is inferred that a colony of Roman merchants may have settled on its banks. A large number of coins with Buddhist symbols and devices also attest the prevalence of Buddhism in the Pāndya country. The famous Siva temple of Madura, the celebrated palace of

Tirumala Naik at the same town, and the great temple at RĀMESWARAM are the chief objects of archaeological interest. These are described in the separate articles on those places.

The people.

The towns in the District number 21 and the villages 4,113. The population in 1871 was 2,266,615; in 1881, 2,168,680; in 1891, 2,608,404; and in 1901, 2,831,280. The decline in 1881 was due to the great famine of 1876–8, when the whole District, except the Melūr and Periyakulam *tāluks*, suffered severely. It is divided into the seven Government *tāluks* of Kodaikānal, Palni, Dindigul, Periyakulam, Madura, Melūr, and Tirumangalam, the head-quarters of which are at the places from which they are respectively named, and the two great *zamīndāris* of Rāmnād and Sivaganga. Statistical particulars of these areas, according to the Census of 1901, are appended:—

Tāluk or *zamīndāri tahsīl*.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Dindigul	1,122	1	209	430,524	384	+ 10.1	23,330
Palni	*599	1	117	214,972	*392	+ 10.2	12,689
Kodaikānal	..	1	15	19,677	..	+ 7.1	1,612
Periyakulam	1,520	3	83	320,098	211	+ 21.6	20,245
Melūr	485	1	98	154,381	318	+ 3.9	8,853
Rāmnād	†2,104	3	143	112,851	†344	+ 4.9	10,320
Tiruvādānai	..	1	809	155,346	..	+ 2.6	10,517
Paramagudi	..	1	375	142,665	..	+ 8.8	9,975
Tiruchuli	..	2	354	166,769	..	+ 1.5	14,671
Mudukulattūr	..	2	399	146,255	..	+ 8.2	9,142
Sivaganga	‡1,680	1	520	155,909	‡235	+ 6.4	13,236
Tiruppattūr	..	2	366	209,036	..	+ 4.5	21,319
Tiruppuvanam	..	..	66	29,261	..	− 2.1	2,271
Madura	446	1	283	308,140	691	+ 18.0	33,914
Tirumangalam	745	1	276	265,396	356	+ 0.3	12,968
Total	8,701	21	4,113	2,831,280	325	+ 0.3	205,062

* Includes Kodaikānal.
† Includes Mudukulattūr, Paramagudi, Tiruchuli, and Tiruvādānai.
‡ Includes Tiruppattūr and Tiruppuvanam.

The chief towns are MADURA, a municipality and the administrative head-quarters, and DINDIGUL and RĀMNĀD, the head-quarters of two of the revenue subdivisions. Of the total population 2,550,783, or 91 per cent., are Hindus by religion; 168,618, or 5 per cent., Musalmāns; and 111,837, or 3 per cent., Christians. The last are chiefly Roman Catholics, and the Muhammadans are chiefly Sunnis by sect. Except in

the Madura *tāluk*, where there is a very large urban population and the density is as high as 700 persons per square mile, the pressure of the population on the soil is nowhere very great. The principal vernacular is Tamil, which is spoken by nearly 80 per cent. of the people, but 13 per cent. of them speak a corrupt form of Telugu and 4 per cent. Kanarese, while Patnūli and Hindustāni are the vernaculars of two considerable sections.

Their castes and occupations.

The District contains a great variety of castes. The most numerous are the land-owning Vellālas (276,000), who are commonly known by their title of Pillais. Next come the Pallans (220,000), who are usually employed in agricultural labour. The Kallans (218,000) are responsible for most of the crime in the District. They are divided into ten main exogamous subdivisions which are territorial in origin. From time immemorial they have levied blackmail on the villagers as the price of abstaining from robbing them; but the people revolted against their exactions in 1893–6, when many of the Kallans were driven from the villages in which they had resided. Next in point of numbers among the castes of the District come the Idaiyans (153,000), the great shepherd community, who are generally styled Komans; the Valaiyans (140,000), a *shikāri* caste found mainly here and in Tanjore; the out-caste Paraiyans (140,000); and the Agamudaiyans (125,000), who have a bad name for crime. These last closely resemble the Maravans, whose reputation for criminality is also notorious, and in their manners and customs they follow the Vellālas. Many of them are domestic servants of the Maravan *zamīndārs*. The Maravans (112,000) are found mainly in this District and Tinnevelly. They are usually cultivators, but are experts in cattle-lifting. They also take a prominent part in the dacoities committed in these two Districts, and were the leaders of the anti-Shānān riots occasioned in 1899 by the claims of the Shānāns (85,000), the great toddy-drawer caste of the Tamil country, to the right of entering Hindu temples. The Chettis number 81,000. The most interesting and distinctive subdivision of this community are the Nāttukottai Chettis, whose head-quarters are in the Tiruppattūr and Tiruvādānai *tahsīls*. They trade as far as Burma, the Straits Settlements, and Colombo, are shrewd men of business, hold much of the wealth of the District, and are noted for their gifts to temples and public charities. The Tottiyans number 67,000. Some of the *zamīndārs* belong to this caste. The Patnūlkārans (43,000), a weaving community which speaks Patnūli (a dialect of Gujarātī) and is supposed

to have emigrated from Gujarāt long ago, are found in large numbers in Madura town. Among the jungle tribes may be mentioned the Kunnavans and the Paliyans, whose ways and manners are even more primitive than the general run of these backward classes. The Semmāns are noteworthy as affording one of the few examples of hypergamy yet noticed on this coast.

The proportion of the population which depends directly on the soil is greater than usual, amounting to 75 per cent. The large number returned in the census statistics as having proprietary rights in land is most marked, exceeding the proportion in any other District in the Presidency, while on the other hand the percentage of the whole population which depends on agricultural labour is much below the average. The inference is that the agriculturist of Madura is usually the owner of the land he tills and not merely a farm-labourer. Chiefly owing to the numbers of the Labbais, an enterprising Musalmān community, and the Nāttukottai Chettis, the proportion of those who live by commerce is nearly double the normal.

Christian missions.

Of the Christian population of 112,000 (of whom all but 636 are natives), nearly 90,000 are adherents of the Roman Catholic Church. The work of the Madura Catholic Mission is now carried on in 1,060 villages, and it possesses 132 churches and 391 chapels. It is one of the most ancient and famous of all the missions of the South. As early as the beginning of the seventeenth century there was a Jesuit church in Madura, where a Portuguese priest ministered to a poor congregation of fishermen who had originally been converted by Francis Xavier; and the roll of those who have worked in the District includes such men as Robert de Nobili (died 1656), John de Britto (martyred in 1693), and the learned Beschi, whose Tamil compositions won the admiration of the best scholars in that tongue.

The American (Congregational) Mission of Madura, established in 1834, numbers about 17,600 members, has 11 stations, and works in 506 villages. The chief strength of the mission lies in its schools and hospitals. It manages a second-grade college at Madura, 2 high schools, 8 boarding-schools, 18 schools for Hindu girls, and 174 day schools giving instruction to 8,000 pupils, of whom 1,100 are girls. Its annual expenditure amounts to Rs. 1,50,000. The Leipzig Lutheran Mission under a Swedish board was established in 1874. It has now 1,200 members, 16 churches, 13 schools, and 54 congregations.

General agricultural conditions.

The predominant geological formation of the District is granite; and a gravelly bed of laterite, which is often quarried for building purposes, runs through the east from north to

south. These formations determine the nature of the soil in different parts. Very little detailed information is on record regarding conditions in the Rāmnād and Sivaganga *zamīndāris*; but over a considerable portion of the former and of the Tirumangalam *tāluk* the prevailing soil is of the black cotton (*karisal*) variety and the allied kinds called *kākarai*, *veppal*, and *pottal*. With this exception the whole of the District is covered with red ferruginous earth, which, being often gravelly or stony in nature, is usually unfit for continuous cultivation or for the raising of the more valuable crops. Owing to the lack of perennial rivers from which a continuous supply of water could be drawn, the construction of tanks (artificial reservoirs) in which the rain is stored until it can be distributed to advantage has been a leading feature of the agriculture of the District from time immemorial.

Chief agricultural statistics and principal crops.

A striking feature in Madura is the large preponderance of *zamīndāri* tracts over those held on the *ryotwāri* tenure. Deducting the former, for which no detailed returns exist, the net area for which particulars are on record is 3,532 square miles, or 40 per cent. of the whole. Statistics of this for the year 1903-4 are appended, in square miles:—

Tāluk.	Area shown in accounts.	Forests.	Cultivable waste.	Cultivated.	Irrigated.
Dindigul . .	795	88	67	533	75
Palni . . .	328	3	25	267	70
Kodaikānal. .	413	210	18	39	5
Periyakulam .	603	151	50	275	56
Melūr . . .	485	105	43	253	91
Paramagudi (*ryotwāri* villages only)	4	..	..	3	1
Madura . .	432	49	56	246	132
Tirumangalam .	472	13	42	344	52
District total	3,532	619	301	1,960	482

Of the total area 65 per cent. is arable, and of this area 84 per cent. is occupied; while of the occupied area 82 per cent. is under cultivation. It will thus be seen that a considerable amount is still available for the extension of holdings. About 83 per cent. of the total area cropped is devoted to the production of food-grains, cereals occupying about 74 per cent. and pulses 9 per cent. The cereals chiefly cultivated are rice, *varagu* (*Paspalum scrobiculatum*), *cholam* (*Sorghum vulgare*), *rāgi* (*Eleusine coracana*), and *cambu* (*Pennisetum typhoideum*). In the Melūr *tāluk* the acreage of pulses other than horse-

gram (viz. black, green, and red gram) is remarkably large. Industrial crops occupy 14 per cent. of the total area cultivated, the most important being cotton and the two oilseeds, gingelly and castor. Nearly 90 per cent. of the cotton is grown in Tirumangalam. The *tāluks* which raise the next largest amounts are Dindigul, Periyakulam, and Palni. Dindigul is famous for its tobacco, which is grown on a large area there and on considerable tracts in the adjacent *tāluks* of Periyakulam and Palni. On the slopes of the lower Palnis a good deal of coffee has been planted. In the *tāluks* bordering on Tinnevelly the black variety of *cholam* is cultivated somewhat extensively for fodder, being sown very thickly so as to induce a thin growth of the stalks. July, August, September, and October are the busiest months for the sowing of crops.

Improvements in agricultural practice.

The variations in the area of the holdings of Government land and in the land revenue of the District during the years from 1871–2 to 1896–7 exhibit an increase of 22 per cent. and 24 per cent. respectively, which shows that assessment has advanced at practically the same rate as the increase in the area cultivated. The great famine of 1876–8 caused about 10 per cent. of the holdings to be abandoned, but naturally the current land revenue did not decrease in so large a proportion. Since that period the area and assessment have more than recovered, the extension in the area of holdings being especially marked.

Little has been done to improve the quality of the crops grown. During the sixteen years ending 1904, 6 lakhs have been advanced under the Land Improvement Loans Act. In 1901 there was a large increase in the sums granted under the Agriculturists Loans Act, which is attributed to extensions of 'wet' cultivation in the tracts served by the Periyār Project referred to below. Before a field can be utilized for 'wet' cultivation considerable expenditure is necessary to level it. 'Wet' cultivation also requires more bullocks than 'dry.'

Cattle, ponies, and sheep.

Stock is maintained in the largest proportion to the extent of cultivation in the Kodaikānal and Melūr *tāluks*. The average area tilled by a pair of bullocks is largest in Tirumangalam, where the black soils prevail, and is comparatively small in Madura and Periyakulam, owing apparently to the large proportion of 'wet' lands there. Fine herds of cattle are found in the Palnis, where there is abundant grazing land. Elsewhere the country is generally deficient in pasturage for the greater part of the year. More attention is now being paid to the breeding and selection of stock, but no fodder is grown specially for the use of cattle except in Tirumangalam. A very

large cattle fair is held at Madura during the annual festival in Chittrai (April-May), and fairly large weekly fairs at Madura and Dindigul. The Pulikulam breed of cattle, now reared at Ayyamkottai, is well-known locally. They are very compact animals and good trotters. Large and strong cattle are bred by some *zamīndārs* for the 'jellicuts,' the distinctive sport of Madura District. This consists in tying a valuable cloth to a bull's horns and challenging any one to remove it. The large crowds present, the noise and shouting and the number of loose cattle which are dashing about, make the bulls which carry the cloths extremely wild and excited, and the operation of removing the cloths is sufficiently hazardous. The plan of penning cattle at night on the fields for the sake of manure is prevalent. The ponies bred are weedy but extremely wiry. The sheep and goats of the District possess no points of especial interest.

Irrigation.

The total amount of land watered from the various sources of irrigation in 1903-4 was 482 square miles. Of this 167 square miles, or nearly 35 per cent., were supplied from Government canals; 175 square miles (36 per cent.) from tanks, or artificial reservoirs; and 133 square miles from wells. These last are chiefly found in the Palni *tāluk*, but are also common in Dindigul and Periyakulam, and number 42,000 in the whole District. In Palni they irrigate on an average 6½ acres each. The number of tanks is 4,081, which is more than in any other District in the Presidency. There are 181 river channels, 282 spring channels, and 40 anicuts. During the last five years the successful introduction of the PERIYĀR PROJECT has greatly advanced agriculture in the District. Briefly stated, it consists in damming up the Periyār ('big river'), which formerly ran uselessly down to the west coast through country which already had a sufficient supply from rainfall, and turning it through the Western Ghāts by a tunnel down to the eastern side of that range, where water for irrigation was the one thing necessary to the prosperity of the country.

Forests.

The area under 'reserved' forests, including 10 square miles of 'reserved' lands, is 619 square miles. The staff of the department consists of a District Forest officer and five rangers, under each of the latter of whom are two foresters. The ranges are Kambam, Kodaikānal, Tāndikudi, Palamedu, and Kanavāypatti. The Kambam range is steep and rocky and covered with boulders, and there is little soil except in the valleys. The forests in it contain little of the more valuable timbers, such as teak (*Tectona grandis*) and *vengai* (*Pterocarpus Marsupium*); but in the Vannatipārai Reserve a small teak plantation has now been made.

In the Kanavāypatti and Palamedu ranges, the work is conditioned by the proximity of the towns of Madura and Dindigul on the South Indian Railway and of the 'wet' land under irrigation from the Periyār Project. The Forest department contracted with the South Indian Railway to supply it during 1903-4 with 12,500 tons of fuel. The forests are either situated on small isolated hills or on ranges of no considerable height, and the chief tree is *Albizzia amara*. On the Sirumalais, Karandamalais, and Perumalais are plantations containing a certain amount of vegetation, but the other hill-tops are narrow and bare ridges.

The Kodaikānal range comprises the slopes of the Palni Hills facing the Palni and Periyakulam *tāluks*. A fair amount of *vengai* and *nīm* stands on these, but the forests have been injured by reckless felling in the past. There is little demand for timber, owing to the supply from Travancore through the Kambam Valley. Small 'coupes' of from 40 to 50 acres are opened out periodically to meet the local demand for fuel and bamboos. The forest revenue in 1903-4 was Rs. 1,73,000, and is rapidly increasing.

Minerals.

At Kottāmpatti in the Melūr *tāluk* the laterite beds are remarkably rich in iron in many places. In the river Vaigai and at Palkanūttu in Dindigul there are auriferous sands of poor quality, which are probably derived from denudation of the Palni Hills and are found only in limited areas. Salt is manufactured at certain stations on the sea-coast by solar evaporation. Near Pandalugudi in the Tiruchuli *tahsīl* there are traces of plumbago in crystalline limestone. The quarries of Puliarpatti in Tiruppattūr supply a large quantity of hornblendic rock used for pillars in temples, while at Aruppukkottai in the Rāmnād *zamīndāri* a splendid rich red granite is found which quarries well. At Kalligudi *chattram* in Tirumangalam a pale granitoid with many pink garnets is largely quarried, and close to Mānāmadurai and Sivaganga in the Sivaganga *zamīndāri* typical laterite conglomerate of good quality occurs. In the neighbourhood of Kokulam in Tirumangalam important beds of crystalline limestone of great beauty are found. On Pāmban Island there is an upraised coral reef; and on the coast eastward from Kīlakarai, south of Pāmban, marine shelly limestone and calcareous sandstone occur.

Arts and manufactures.

The most important art in the District is the silk-weaving carried on by the Patnūlkārans of Madura town. But the industry is not flourishing, owing to the extensive importation of machine-made goods from England and the competition of

gold thread from France. Raw silk is obtained from Calcutta, Bombay, Kollegāl in Coimbatore District, and Bangalore and Mattūr in Mysore. In dyeing, *kamela* powder (collected from the glands on the surface of the capsules of the tree *Mallotus phillippinensis*) and lac are used for the production of yellow and red respectively. Aniline dyes are now largely resorted to, as the preparation of vegetable colours is a very tedious operation; but though they give lustre and brilliancy, they are not so permanent as the indigenous dyes. Madura was once famed for the preparation of a deep red vegetable dye of great beauty, but this is now hardly ever made. The weaving industry in Dindigul was formerly important, but is declining owing to the importation of fabrics from Bangalore. In Paramagudi some of the weavers have taken to other occupations. In the Rāmnād *tahsīl* cotton fabrics are made and sold locally. Coarse woollen blankets (*kamblis*) are manufactured to a small extent by Kuruba women in some twenty villages in the Melūr, Dindigul, and Palni *tāluks*. The process from shearing the sheep to the completion of the blanket lasts a month.

The Madura Mills Company employs a daily average of 1,760 hands at Madura in cotton-spinning; the out-turn in 1903-4 was 16,000 lb. of yarn. Cotton-cleaning is carried on in Mudukulattūr and Tiruchuli. Messrs. Spencer & Co. of Madras have a large cigar factory in Dindigul, at which 746 hands are employed. There are three or four lockmakers at the same place whose handiwork is excellent. Tanning is also carried on there to a considerable extent by small employers. Bell-metal cooking vessels and lamps are made at Mānāmadurai and Dindigul.

Commerce.

The commercial centre of the District is Madura city, which is the second largest town in the Presidency. The trade there is extensive, and the railway receipts are larger than at any other station on the South Indian Railway. Commerce is chiefly carried on with the adjacent Districts of Tinnevelly, Coimbatore, and Trichinopoly. A large amount of cotton is sent by cart from Coimbatore through Madura to the cotton presses at Virudupatti and Tinnevelly, and considerable quantities go to the same places from within the District. Cotton and silk fabrics are largely exported, the raw silk of which the latter are made being imported from Mysore. Much tea is conveyed through the District from the Kannan Devan Hills in Travancore on its western border. Other exports are rice, sheep and cattle, tobacco, spices, and cardamoms. Imports include salt from Tinnevelly, timber from Burma, which comes to the

seaports on the coast, and from Travancore and the west coast Districts.

Most of the internal trade is effected at the numerous weekly markets managed by the local boards, the receipts from the fees collected at which amounted in 1903-4 to Rs. 42,000, or more than in any other Madras District except Coimbatore. A large traffic in firewood is carried on between Madura city and the neighbouring hills, and leaf-manure is carted in large quantities to the 'wet' lands irrigated by the Periyār scheme. A considerable trade is conducted between the villages on the Palnis and the adjacent towns in the plains in hill products, such as bamboos, honey, dyes, and tans. The chief agents of commerce are the Chettis and Labbais already referred to.

The sea-borne trade of the District passes through the four ports of Devipatam, Kīlakarai, Pāmban, and Tondi, the value of their aggregate trade in 1903-4 being Rs. 1,66,000, Rs. 1,80,000, Rs. 5,93,000, and Rs. 8,24,000 respectively. These deal chiefly with other ports in India and with Ceylon. At Devipatam the chief import is rice and the principal export coloured cotton piece-goods; Kīlakarai trades mainly in rice; Pāmban imports rice more than any other commodity, but its largest export is cattle, sheep and goats to Ceylon. Tondi does a large trade in teak from Burma, and its principal export is rice.

Railways and roads.

The main line of the South Indian Railway (metre gauge) runs from the Trichinopoly and Madura border to Madura city and thence to the Tinnevelly border, a distance of nearly 100 miles. The first of these two sections was opened in 1875, and the second in 1876. In 1902 the branch from Madura to Pāmban Island was completed as far as Mandapam, a village on the coast on the mainland side of the narrow strait which divides the island from the shore, a distance of 90 miles. This line has done much to open up the Rāmnād country, but communications by railway are still much needed in the eastern *tahsīls* of that *zamīndāri*. A proposal has accordingly been made that a line should be constructed from Rāmnād via Tiruvādānai, Devakottai, and Kāraikkudi to Kānnadukāttan on the north-eastern frontier of the District, provided that the Pudukkottai State consents to carry it on from Kānnadukāttan through Pudukkottai town to Tanjore. Should the State not consent to this, the alternative course would be to take the line to Arantāngi in Tanjore District, and link it with the Tanjore District board's railway to Arantāngi. A line has also been suggested from Dindigul to Palni, provided that the Coimbatore

District board continues it from the latter town to Coimbatore via Udamalpet. Another proposal contemplates a light railway from Ammayanāyakkanūr on the main line of the South Indian Railway to Kuruvanūttu at the foot of the Palni Hills, with branches to the sanitarium of Kodaikānal and to Bodināyakkanūr.

The total length of metalled roads in the District is 624 miles, and of unmetalled roads 608 miles; all are maintained from Local funds, except 24 miles kept up by the Public Works department. Avenues of trees have been planted along 1,091 miles. The main lines are those from Madura city, leading to Pudukkottai through Melūr and Tiruppattūr, to Mandapam through Rāmnād, to Trichinopoly through Melūr, to Aruppukkottai, to Allinagaram, and to Ammayanāyakkanūr; and those from Ammayanāyakkanūr to Pīrmed, from Dindigul to Palni, and from Dindigul to Vattānam. On the lower Palnis the Attūr *ghāt* road has been opened between Attūr and Kannanūr. The District is thus fairly supplied with means of communication, except in the Rāmnād *zamīndāri*; there the roads are few and bad, and in the rainy season practically impassable.

Famine. So far as recorded information goes, the District does not appear to have been seriously affected by any bad season prior to 1865. During the famine of 1866–7 the average number of people in receipt of relief during eleven months was 4,000, of whom one-third were employed on works and two-thirds relieved gratuitously. The next famine was that of 1876–8. During the nineteen months, December, 1876–June, 1878, the average number of persons relieved by Government was 28,000. Madura was situated on the southernmost limit of distress. The maximum number relieved during any one month was 109,000 in September, 1877. The north-east monsoon of 1892–3 was very deficient; and the necessity for carrying out relief works on a large scale throughout the Rāmnād *zamīndāri* was only obviated by a very large migration of the inhabitants to the neighbouring rich District of Tanjore and to Ceylon, and by a fair fall of rain in March, 1893, which gave succour to the residue.

Madura has three safeguards against famine: namely, the railway, which did invaluable service in 1876–8 by bringing rice from Tuticorin, and which now runs farther to Mandapam; the Periyār Project; and the readiness with which the people emigrate to Ceylon when the seasons are bad.

District For general administrative purposes the District is grouped

subdivisions and staff.

into four subdivisions. Dindigul and Rāmnād are in charge of Covenanted Civilians, and Madura and Melūr are usually in charge of Deputy-Collectors recruited in India, though the latter is often assigned to the Assistant Collector. The Dindigul subdivision comprises the Dindigul, Palni, Periyakulam, and Kodaikānal *tāluks*; Rāmnād comprises the *zamīndāris* of Rāmnād and Sivaganga, the island of Pāmban, and a few Government villages; Madura comprises the Madura and Tirumangalam *tāluks*; and the Melūr Deputy-Collector administers the Melūr *tāluk* and carries on the magisterial work of Madura city. The Rāmnād and Sivaganga *zamīndāris* are subdivided into the eight *zamīndāri tahsīls* of Mudukulattūr, Paramagudi, Rāmnād, Sivaganga, Tiruchuli, Tiruppattūr, Tiruppuvanam, and Tiruvādānai, each in charge of a deputy-*tahsīldār*. At Dindigul, Madura, Melūr, Palni, Periyakulam, and Tirumangalam, there is a *tahsīldār* assisted by a stationary sub-magistrate. Subordinate to these *tahsīldārs* are deputy-*tahsīldārs* with headquarters at Uttamapālaiyam, Vedasandūr, Nilakottai, Madura city, and Usilampatti. Another independent deputy-*tahsīldār* is stationed at Kodaikānal. The superior staff of the District consists of the usual officers.

Civil justice and crime.

Civil justice is administered by the seven District Munsifs of Madura, Dindigul, Periyakulam, Paramagudi, Sivaganga, Mānāmadurai, and Tirumangalam (the court of the latter being at Madura city), by two Subordinate Judges (Madura East and West), and by a District Judge. The village headmen have the usual civil powers in petty cases. In 1904 as many as 10,400 suits were filed before them. Litigation is more than usually common.

Thefts, house-breaking, dacoities, and cattle-lifting are the chief criminal offences. The system of giving *tuppu-kūli*, or 'clue wages,' for the recovery of stolen property, instead of reporting the theft to the police, is very general and greatly hinders the detection of crime. The most noted thieves are the Kallans, who are experts in cattle-lifting, and will often travel forty miles in a night. The cattle they steal are either returned to their owners on payment of *tuppu-kūli* or sold across the border in Tinnevelly and Coimbatore, or even sometimes conveyed to Ceylon.

Land revenue administration.

In the sketch already given of the political history of Madura, it has been seen that from the sixteenth century the system of government was feudal, the *poligārs* enjoying large estates and collecting the revenue in an arbitrary fashion. It has also been mentioned that the history of the province of

Dindigul differed from that of the rest of the District until this latter came into British hands, Dindigul having been acquired by conquest from Tipū Sultān in 1790 and the remainder of Madura having been finally ceded to the British in 1801. The revenue history of Madura proper is consequently distinct from that of Dindigul, while that of both differs again from the course of events in the two *zamīndāris* of Sivaganga and Rāmnād, which had long been under the rule of the Setupatis or chiefs of the latter place. Mr. Macleod was the first Collector appointed to the province of Dindigul. The system of administration adopted at first consisted in retaining the land revenue under the direct management of the officers of government. This did not succeed, and the receipts dwindled to a very low figure. Mr. Macleod tendered his resignation in 1794, and soon afterwards the province was leased out to renters for a term of five years. In 1796 Mr. Hurdis took charge. He concluded a survey of the greater part and introduced a system of settlement which, though it broke down at first because the assessments were too high, proved more satisfactory after it had been improved and elaborated. On the acquisition of the rest of Madura in 1801 Mr. Hurdis was made Collector of the whole District so constituted, including Dindigul. For the next three years the system of renting out the villages seems to have prevailed. In 1804-5, however, a settlement founded upon the money-assessments introduced by Mr. Hurdis was made with each individual ryot. In 1807-8 triennial leases were granted to the village communities. These were failures, and in 1810-1 the system of settling with each ryot was reverted to. In 1814-5 this *ryotwāri* tenure was formally adopted in both Dindigul and Madura proper, and has continued in force from that date. The District was resurveyed between 1880 and 1885, and settled between 1885 and 1893. The survey showed that the old accounts had understated the area in occupation by 8 per cent., and the settlement resulted in an increase of 1 per cent. in the land revenue.

The average assessment per acre on 'dry' land is now Rs. 1-1-8 (maximum, Rs. 2; minimum, 4 annas) and that on 'wet' land Rs. 4-1-9 (maximum, Rs. 8-8-0; minimum, Rs. 2-8-0). The revenue from land and the total revenue in recent years are given on the next page, in thousands of rupees.

Local boards

Outside the five municipalities of Madura, Dindigul, Palni, Periyakulam, and Kodaikānal, local affairs are managed by the

District board and the six *tāluk* boards of Madura, Melūr, Tirumangalam, Sivaganga, Rāmnād, and Dindigul. The areas in charge of the first five of these correspond with the *tāluks* and *zamīndāris* of the same names, and that controlled by the last of them comprises the *tāluks* of Dindigul, Periyakulam, Palni, and Kodaikānal. The total expenditure of these boards in 1903-4 was about 7 lakhs, the principal items of outlay being roads, medical institutions and sanitation, and the up-keep of schools. Their income is derived mainly from the cess on land. The affairs of thirty-seven of the smaller towns are managed by Union *panchāyats* established under Act V of 1884, which have power to raise revenue from a tax on houses.

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	27,c6	29,25	35,06	36,55
Total revenue . .	34,04	43,00	56,09	60,67

Police and jails.

The police are in charge of a District Superintendent, with head-quarters at Madura city, and an Assistant Superintendent at Rāmnād. The force comprises 22 inspectors, one European head-constable for the reserve police, 153 other head-constables, and 1,069 constables. There are 107 police stations, and the reserve police at head-quarters number 131. Punitive police forces are at present quartered at Aruppukkottai and Kamudi, in consequence of the participation of the inhabitants in the anti-Shānān riots of 1899. The village police number 659 *talaiyāris*, and 50 road *talaiyāris* are employed to guard certain spots along the main routes. The District jail, at Madura city, has accommodation for 455 prisoners, while 18 subsidiary jails have a daily average population of 116 prisoners and accommodation for 299. The chief industry in the Madura jail is cotton-weaving. Coir and grass matting are also made, the former chiefly for the Public Works department.

Education.

According to the Census of 1901, Madura stands sixth among the Madras Districts in point of literacy, and about 7 per cent. of the total population (14·5 males and 0·5 females) can read and write. The *tāluks* which rank highest are Madura, where 11 per cent. of the people are literate, and Kodaikānal. The position of this latter is, however, largely due to the number of Europeans and Eurasians who reside in its head-quarters station. The total number of pupils of both sexes under instruction in 1880-1 was 20,971; in 1890-1, 42,506; in 1900-1, 63,087; and in 1903-4, 72,211. On

March 31, 1904, there were in the District 1,890 educational institutions of all kinds, of which 1,274 were classed as public and 616 as private. The former included 1,230 primary, 33 secondary, and 9 special schools, and the 2 Arts colleges at Madura city. Four of them were maintained by the Educational department, 83 by the local boards, and 7 by the municipalities, while 708 were aided from public funds and 472 were unaided. The girls in them numbered 4,539, and 690 more were in private elementary schools. The number of boys in primary classes is 24 per cent. of those of school-going age, and the corresponding percentage for girls is 2. Among Musalmāns the corresponding percentages are 77 and 5. About 5,000 Panchamas are being educated at 136 schools chiefly intended for that class. The total expenditure on education in 1903-4 was 3·68 lakhs, of which 1·29 lakhs was derived from fees. Of the total, 57 per cent. was devoted to primary education.

Hospitals and dispensaries. There are 41 medical institutions in the District, with accommodation for 183 in-patients. The new municipal hospital in Madura city, which cost more than a lakh, is the largest. The Albert Victor Hospital, belonging to the American Mission, is a splendidly equipped building with accommodation for 44 in-patients. In 1903, 3,400 in-patients and 437,000 out-patients were treated, and 16,000 operations were performed in all these institutions taken together. The total expenditure was Rs. 1,00,00, two-thirds of which was met from Local and municipal funds.

Vaccination. The number of persons successfully vaccinated in 1903-4 was 77,000, or 28 per mille of the population, the Presidency average being 30 per mille. Vaccination is compulsory in all the municipalities and Unions.

[W. Francis, *District Gazetteer*, 1906.]

Dindigul Subdivision.—Subdivision of Madura District, Madras, consisting of the four *tāluks* of DINDIGUL, PALNI, KODAIKĀNAL, and PERIYAKULAM.

Dindigul Tāluk.—*Tāluk* in the Dindigul subdivision in the north of Madura District, Madras, lying between 10° 0′ and 10° 49′ N. and 77° 40′ and 78° 15′ E., with an area of 1,122 square miles. The population in 1901 was 430,524, compared with 391,090 in 1891. It contains one town, DINDIGUL (population, 25,182), the head-quarters, and 209 villages. Deputy-*tahsīldārs* are stationed at Vedasandūr and Nilakottai. The demand for land revenue and cesses in 1903-4 was Rs. 5,02,000, and the *peshkash* paid by the two

zamīndāri estates of Kannivādi and Ammayanāyakkanūr amounted to an additional Rs. 52,000. The *tāluk* is an undulating plain, bordered by the PALNI HILLS and the smaller Karandamalai and Sirumalai ranges. The soil, except where enriched by silt from the hills, is generally poor. The cultivation is almost wholly unirrigated, but a large number of wells supply patches of 'wet' cultivation and garden crops. The chief river is the Kodavanār, a tributary of the Amarāvati. Among special crops tobacco may be noted, while plantains and coffee are cultivated on the Sirumalais.

Palni Tāluk.—*Tāluk* in the Dindigul subdivision in the north of Madura District, Madras, lying between 10° 8′ and 10° 43′ N. and 77° 15′ and 77° 55′ E., with an area (including the Kodaikānal *tāluk*, which formerly belonged to it) of 599 square miles. The population in 1901 was 214,972, compared with 195,050 in 1891. It contains one town, PALNI (population, 17,168), the head-quarters, and 117 villages. The demand for land revenue and cesses amounted in 1903–4 to Rs. 2,96,000, of which Rs. 48,000 was *peshkash* paid by *zamīndāri* estates. The *tāluk* is bounded on the south by the PALNI HILLS. It is almost all unirrigated, but patches of 'wet' land are supplied by about 50 tanks, by the rivers Shanmukhanadī and Nangānji, and by the Nallatanga stream. Compared with other parts of the District, it is not well protected from famine.

Kodaikānal Tāluk.—A minor *tāluk* in the Dindigul subdivision of Madura District, Madras. Its limits correspond roughly with the PALNI HILLS, but their exact area has not yet been ascertained. The head-quarters are the hill station of KODAIKĀNAL (population, 1,912), and the *tāluk* contains in addition 15 small hill villages. The population in 1901 was 19,677, compared with 18,380 in 1891. The demand for land revenue and cesses amounted in 1903–4 to Rs. 42,000. Cultivation is carried on along the sides of the valleys, and in some places presents a most picturesque appearance, owing to the numerous terraces which have been formed down the slopes of the hills, either to obtain sufficiently level ground or to render the hill torrents available for irrigation. Among special products may be mentioned wheat, garlic, coffee, and cardamoms. The rice produced is of a coarse quality and takes between eight and ten months to ripen. Plantains are largely cultivated in the villages among the lower Palnis, and numerous herds of cattle are tended by the villagers of the upper part of the range. Education is backward among the

natives, and is promoted almost entirely by the Jesuit and American Missions. The sanitation of the villages is more than usually defective.

Periyakulam Tāluk.—*Tāluk* in the Dindigul subdivision of Madura District, Madras, lying in the south-west corner of the District, between 9° 32′ and 10° 15′ E. and 77° 11′ and 77° 51′ E., with an area of 1,520 square miles. The population in 1901 was 320,098, compared with 263,253 in 1891. The *tāluk* contains three towns, Periyakulam (population, 17,960), the head-quarters, Bodināyakkanūr (22,209), and Uttamapālaiyam (10,009); and 83 villages. The demand for land revenue and cesses amounted in 1903–4 to Rs. 3,75,000, and *peshkash* from *zamīndāri* estates to Rs. 32,000. The *tāluk*, compared with other parts of the District, is sparsely populated. Through it flow the Vaigai and Suruli rivers, the latter of which receives the water of the Periyār Project, and the tributary rivers Teni and Varāhanadī. On three sides it is hemmed in by hills—on the west by the Western Ghāts, on the north by the Palni Hills, and on the south by the smaller Andipatti range. A large valley running up into the Western Ghāts, known as the Kambam Valley, is one of the pleasantest parts of the District.

Melūr Tāluk.—*Tāluk* and subdivision in the east of Madura District, Madras, lying between 9° 52′ and 10° 30′ N. and 78° 8′ and 78° 29′ E., with an area of 485 square miles. The population in 1901 was 154,381, compared with 148,656 in 1891. It contains one town, MELŪR (population, 10,100), the head-quarters, and 98 villages. The demand for land revenue and cesses amounted in 1903–4 to Rs. 4,60,000. In the north are the irregular masses of the Alagar, Nattam, and Karandamalai hills. The more northern villages, known as the Arumāgānam, which are situated among these hills, are difficult of access owing to the lack of roads. The soil is chiefly red sand. One-half of the *tāluk* is supplied with water from the Periyār Project, and some of the best varieties of rice produced in the Presidency are grown in this part. The remaining portion is irrigated by the Pālār, the Tirumanimuttār, and the Uppār streams, which, however, are not perennial, and by numerous small tanks which these rivers supply or which are rain-fed. The *tāluk* has been greatly transformed and enriched by the Periyār water.

Rāmnād Subdivision.—Subdivision of Madura District, Madras, consisting of the RĀMNĀD and SIVAGANGA estates. The former of these is subdivided for purposes of administration into the *zamīndāri tahsīls* of Rāmnād, Tiruvādānai, Paramagudi,

Tiruchuli, and Mudukulattūr; while Sivaganga, Tiruppattūr, and Tiruppuvanam are comprised in the latter.

Rāmnād Estate.—A permanently settled *zamīndāri* estate in the south and east of Madura District, Madras, lying between 9° 6′ and 10° 6′ N. and 77° 56′ and 79° 19′ E., consisting of the five *zamīndāri tahsīls* of Rāmnād, Tiruvādānai, Paramagudi, Tiruchuli, and Mudukulattūr, with an area of 2,104 square miles. Population (1901), 723,886. It includes the whole of the sea-coast of the District. The *peshkash* (including cesses) payable to Government by the estate in 1903–4 was 3¾ lakhs.

Regarding the early history of the estate legends are plentiful but facts are few. Its chiefs are the titular heads of the numerous caste of the Maravans, and bear the title of Setupati, or 'lord of the causeway.' This causeway is the ridge of rock which used to connect the tongue of the mainland running out into the Gulf of Manaar with the island of PĀMBAN. Pāmban Island contains the holy temple of RĀMESWARAM; and tradition has it that when Rāma crossed to the island from Ceylon by way of ADAM'S BRIDGE and founded the temple as a thank-offering for his victory over Rāvana, he also appointed the first Setupati to protect the pilgrims who should traverse the causeway to visit it. The chiefs of Rāmnād appear to have undoubtedly borne the title as far back as the fourteenth and fifteenth centuries; and in the early years of the seventeenth century it was formally conferred by one of the Naik kings of Madura on the head of the Maravans, from whom the present owners of the estate are descended.

Of the earlier chiefs Raghunātha Kilavan (1673–1708) is perhaps the best known. It was he who moved the capital of the country from Pogalūr, the ancient family seat, to its present site 10 miles farther east at Rāmnād, which he fortified. About 1725 a usurper became Setupati; but he treated his vassals so harshly that one of them joined the legitimate heir and, with the help of the Rājā of Tanjore, attacked and defeated him. The country was divided by the victors, the Rājā of Tanjore annexing that part of it which lay north of the Pāmbār river. The rebellious vassal took the more valuable two-fifths of the remainder, and founded there the line of the present *zamīndārs* of SIVAGANGA, while the other three-fifths, the present Rāmnād estates, went to the lawful heir. Throughout the Carnatic Wars the troops of Rāmnād frequently figure on one side or the other. In 1795 the Setupati was deposed by the British for insubordination and misrule, and died a state prisoner. The estate was formed into a *zamīndāri* in 1803, a permanent

sanad (title-deed) being granted to the deposed chief's sister. The rule of her successors has been in the main one long chronicle of mismanagement, litigation, and debt. The last Rājā of Rāmnād succeeded in 1873 as a minor, and the estate was accordingly managed for the next sixteen years by the Court of Wards. During this period 8¼ lakhs was spent on repairs to irrigation works, 14 lakhs of debt was cleared off, and the estate was handed over to its owner in 1889, in good order, with a revenue which had been increased from 5 lakhs to 9, and with a cash balance of 3½ lakhs. Within the next five years the Rājā had spent this balance, incurred further debts of over 30 lakhs, and pledged the best portions of the estate to his creditors. The *zamīndāri* is now managed by trustees for the creditors and the present proprietor, who is a minor.

The estate is perhaps the most desolate and uninviting area of its size in the Presidency. Almost dead level throughout, and for the most part infertile, the coast is lined with blown sand and brackish swamps, diversified only by stunted scrub and palmyra palms. It has only two fair roads (those from Madura to Rāmnād and to Tiruchuli); its irrigation works depend upon the capricious rivers Vaigai and Gundār, and are often in the last state of disrepair and neglect; and except Rāmnād and Rāmeswaram, already referred to, it contains no town of interest or importance. Its chief port, Kīlakarai, is in a declining state, and two others of its principal towns, Kamudi and Abirāmam, have advanced but little for many years. Paramagudi, on the road to Madura, has some reputation for hand-painted cloths; but the only flourishing town in the estate is Aruppukkottai on the western border, which derives much of its prosperity from trade with the neighbouring District of Tinnevelly.

The South Indian Railway has recently been carried from Madura through Rāmnād to Mandapam, at the extreme end of the tongue of mainland which runs out to meet Pāmban Island. Projects for carrying it over the remains of the old causeway on to the island, and for cutting a ship canal through the island and establishing a port for ocean-going vessels near by, are now under consideration, and if carried out will greatly increase the prosperity of this portion of the *zamīndāri*. Pāmban and the other smaller coral islands in the Gulf of Manaar are even at present the pleasantest portions of the estate, and are noted for their turtles and oysters.

Rāmnād Tahsīl.—*Zamīndāri tahsīl* in the estate and

subdivision of the same name in Madura District, Madras. The population was 112,851 in 1901, compared with 107,601 in 1891. It contains three towns, RĀMNĀD (population, 14,546), the head-quarters; KĪLAKARAI (11,078), a decaying seaport on the coast; and RĀMESWARAM (6,632), which stands on the island of PĀMBAN and is noted for its beautiful temple. The *tahsīl* is an unlovely tract, consisting for the most part of poor sandy or saline soils, covered with little growth beyond stunted shrubs and palmyra palms. The sea-breezes, however, suffice to keep it cooler than most of the rest of the District.

Tiruvādānai.—*Zamīndāri tahsīl* forming part of the RĀMNĀD ESTATE, and lying in the northern portion of the Rāmnād subdivision of Madura District, Madras. The population in 1901 was 155,346, compared with 151,472 in 1891. It contains one town, DEVAKOTTAI (population, 9,503), and 809 villages. The head-quarters are at Tiruvādānai, where a deputy-*tahsīldār* is stationed. The *tahsīl* reproduces the general features of the Rāmnād subdivision, being a level plain undiversified by hills, forests, or rivers. The sources of irrigation are rain-fed tanks. The population mainly consists of Kallans, Maravans, and Agamudaiyans; but the most influential class are the Nāttukottai Chettis, who live chiefly in Devakottai and the neighbouring villages and carry on a widespread business in money-lending. Muhammadans are found in large numbers on the sea-coast near Tondi, a seaport possessing a considerable import trade in teak and other timber from Burma and Ceylon and exporting sheep and rice to Ceylon. The only religious centres are the temples of Tiruvādānai and Kandanūr, and the sole object of antiquarian interest is a ruined Jain temple at Hanumantakudi.

Paramagudi Tahsīl.—*Zamīndāri tahsīl* in the Rāmnād subdivision and estate, Madura District, Madras. The population in 1901 was 142,665, compared with 131,151 in 1891. It contains one town, PARAMAGUDI (population, 16,134), a station on the Madura-Pāmban Railway and the head-quarters of the deputy-*tahsīldār*, and 375 villages. The river VAIGAI passes through the *tahsīl* and serves as the main source of irrigation.

Tiruchuli.—Western *zamīndāri tahsīl* in the Rāmnād subdivision and estate, Madura District, Madras. The population in 1901 was 166,769, compared with 164,239 in 1891. It contains 354 villages and two towns: ARUPPUKKOTTAI (population, 23,633), the head-quarters, which carries on an extensive

trade with the neighbouring District of Tinnevelly, and Pālaiyampatti (4,967). The chief manufacture is the weaving of cotton cloths of inferior quality. The country is for the most part black cotton soil; it is desolate and arid, the monotony of the plain being relieved only by palmyra palms and patches of low scrub. The irrigated area is, proportionately to the total extent, very small.

Mudukulattūr.—*Zamīndāri tahsīl* in the Rāmnād subdivision and estate, Madura District, Madras. It is named after its head-quarters, where a deputy-*tahsīldār* and sub-magistrate is stationed. The population in 1901 was 146,255, compared with 135,182 in 1891. It contains two towns, ABIRĀMAM (population, 7,338) and KAMUDI (6,854), and 399 villages. The *tahsīl* possesses the same desolate and uninviting appearance as the rest of the Rāmnād estate. It is largely black cotton soil, and during the rains, owing to the absence of roads, the country becomes nearly impassable.

Sivaganga Estate.—A permanently settled *zamīndāri* estate in the Rāmnād subdivision of Madura District, Madras, lying between 9° 30′ and 10° 17′ N. and 78° 5′ and 78° 58′ E., with an area of 1,680 square miles. Population (1901), 394,206. The *peshkash* payable by the *zamīndār* to Government (including cesses) amounts to 3 lakhs. Formerly the estate was part of the neighbouring *zamīndāri* of RĀMNĀD, the territory of the chiefs called Setupatis, or 'lords of the causeway' leading to the sacred temple of RĀMESWARAM; but about 1730 one of these Setupatis was forced to surrender two-fifths of his possessions to the *poligār* of Nālkottai, who thenceforth became independent and was known as the Lesser Maravan, Maravan being the caste to which both he and the Setupati belonged. During the latter part of the eighteenth century the rulers of Sivaganga were involved in the struggles of greater powers. In 1773 the country was reduced by the British, the Rājā was killed at Kāliyārkovil, and his widow was forced to flee to Dindigul, where she remained under the protection of Haidar Alī. Later, she was restored to the *zamīndāri*, and in 1803 the permanent settlement was made with one Udaya Tevan of the family. The subsequent history of the estate has been a tale of mismanagement and litigation, one of the succession suits having lasted a very long time and cost a great deal of money. At present its resources are being developed by European lessees who, in consideration of having paid off the last *zamīndār's* debts and made him an allowance for life, obtained a lease of the entire estate for a term of thirty

years. The present *zamīndār* is a minor under the Court of Wards.

Sivaganga Tahsīl.—*Zamīndāri tahsīl* in the Rāmnād subdivision of Madura District, Madras, which, together with the Tiruppattūr and Tiruppuvanam *tahsīls*, makes up the SIVAGANGA ESTATE. The population in 1901 was 155,909, compared with 146,549 in 1891. The *tahsīl* contains one town, SIVAGANGA (population, 9,097), the head-quarters of its deputy-*tahsīldār*, and 520 villages. It is an unbroken level plain, mainly of red soil, and is fairly fertile. The crops are irrigated chiefly by the VAIGAI and by river-fed tanks.

Tiruppattūr Tahsīl.—*Zamīndāri tahsīl* belonging to the SIVAGANGA ESTATE, situated in the northern portion of the Rāmnād subdivision, Madura District, Madras. The population in 1901 was 209,036, compared with 200,087 in 1891. It contains 366 villages and two towns: TIRUPPATTŪR (population, 5,881), the head-quarters and the station of a deputy-*tahsīldār*, and KĀRAIKKUDI (11,801). The chief sources of irrigation are the Pālār river and rain-fed tanks; but the *tahsīl* depends in large measure for its food-supply upon the neighbouring *tāluk* of Melūr, half of which is supplied with water from the PERIYĀR PROJECT. Among its manufactures may be noted brass vessels and coco-nut fibre. The country is a level plain, broken only by a few hills near Pirānmalai and Karisappatti, and the soil is red sand.

Tiruppuvanam.—*Zamīndāri tahsīl*, forming a portion of the SIVAGANGA ESTATE, in the Rāmnād subdivision of Madura District, Madras. The population in 1901 was 29,261, compared with 29,878 in 1891. It contains 66 villages, the chief of which is Tiruppuvanam, a station on the South Indian Railway and the head-quarters. The *tahsīl* lies along the bank of the VAIGAI river, which supplies many of its irrigation tanks. The soil is mainly alluvial.

Madura Subdivision.—Subdivision of Madura District, Madras, consisting of the *tāluks* of MADURA and TIRUMANGALAM.

Madura Tāluk.—*Tāluk* in the subdivision and District of the same name, Madras, lying in the centre of the District, between 9° 45′ and 10° 12′ N. and 77° 51′ and 78° 18′ E., with an area of 446 square miles. The population in 1901 was 308,140, compared with 261,195 in 1891. It contains one town, MADURA CITY (population, 105,984), the head-quarters and the second largest municipality in the Presidency, and 283 villages. The demand for land revenue and cesses amounted

in 1903–4 to Rs. 6,40,000, excluding *peshkash* (Rs. 3,000) paid by *zamīndāri* estates. The chief source of the agricultural prosperity of the *tāluk* is the water of the PERIYĀR PROJECT, since the advent of which a large extension of 'wet' cultivation has taken place. Through the *tāluk* runs the VAIGAI river, and it is bordered on the north and west by the Sirumalai and Nāgamalai Hills.

Tirumangalam Tāluk.—*Tāluk* in the west of the Madura subdivision of Madura District, Madras, adjoining Tinnevelly, and lying between 9° 37′ and 10° 5′ N. and 77° 42′ and 78° 7′ E., with an area of 745 square miles. The population in 1901 was 265,396, compared with 264,621 in 1891. It contains one town, TIRUMANGALAM (population, 8,894), the head-quarters and a station on the South Indian Railway, and 276 villages. The demand for land revenue and cesses amounted in 1903–4 to Rs. 4,50,000, of which Rs. 38,000 was *peshkash* paid by *zamīndāri* estates. The *tāluk* consists for the most part of black cotton soil, assessed at Rs. 2 an acre or slightly less. It is largely inhabited by the thief-caste of the Kallans, who are notorious cattle-lifters. The irrigation sources are mostly rain-fed. A hill called Saduragiri is visited by pilgrims from various parts of the District on the festival of Adi Amāvasi. A small temple at Kovilpatti near Vikramangalam is noted for its stone-carving, and its conservation has been undertaken by Government.

Abirāmam.—Town in the Rāmnād estate, Madura District, Madras, situated in 9° 29′ N. and 78° 27′ E. Population (1901), 7,338, of whom nearly half consist of the Musalmān trading community of Labbais. The chief industry is cotton-weaving, and there is a considerable trade in grain, cotton, and cloth. The town possesses a good supply of drinking water and a fine irrigation tank. A local superstition declares that within an area of two miles snake-bite is innocuous.

Adam's Bridge.—A ridge of sand and rocks, about 17 miles in length, stretching from north-west to south-east from the island of Rāmeswaram on the coast of Madura District, Madras, to the island of Manaar off Ceylon, and nearly closing the northern end of the Gulf of Manaar. The centre of the bridge is in 9° 5′ N. and 79° 34′ E. At high tide three or four feet of water cover it in places. Hindu tradition says that the bridge was made by Hanumān, the monkey-god, and his army of monkeys, to convey Rāma across to Ceylon in his expedition to recover his wife Sītā, whom Rāvana, the ten-headed demon-king of that island, had

carried off. It is under consideration to carry the railway, which now runs as far as Mandapam, on the mainland opposite the island of PĀMBAN, across to the island and thence over this ridge to Ceylon, thus linking up the Ceylon and Indian railways and establishing direct and unbroken communication between the port of Colombo and India generally.

Alagarkovil.—A temple in the Melūr *tāluk* of Madura District, Madras, situated in 10° 5′ N. and 78° 14′ E., about 12 miles north-east of Madura city, at the foot of the south-eastern slope of the Alagar hills, sacred to the god Alagar. The building is very ancient and is held in special repute by the Kallans and other thieving communities, who are said to devote to the god a portion of their ill-gotten gains in the expectation that they will thereby be successful in their criminal expeditions. The temple is surrounded by an extensive outer wall which once served as a fortification. At the festival on the new-moon day of the month of Adi thousands of worshippers from the neighbouring Districts gather here. Several fine porches about it are now rapidly falling into ruins. Three miles away on the Alagar hills is a building containing a spring, the water of which is believed to possess power to cleanse from all sin.

Aruppukkottai.—Head-quarters of the Tiruchuli *tahsīl* of the Rāmnād estate, in Madura District, Madras, situated in 9° 31′ N. and 78° 6′ E. Population (1901), 23,633. It is a thriving place and its population has doubled in the last twenty years; but it suffers from lack of communications, being 13 miles distant from Virudupatti, the nearest railway station. The inhabitants consist chiefly of Sedans, who are weavers, and of Shānāns, an enterprising community in commercial matters, who have brought the town to its flourishing condition. The place has at present to support a force of punitive police, owing to the recent disturbances caused by the claims of the people of this caste, which is reckoned low in the social scale, to enter Hindu places of worship. The chief industries are cotton-weaving and dyeing. The fabrics made here are exported to Colombo, Singapore, and Penang.

Bodināyakkanūr.—Town in the Periyakulam *tāluk* of Madura District, Madras, situated in 10° 1′ N. and 77° 21′ E. Population (1901), 22,209. The town, which is the chief place in the *zamīndāri* of the same name, is growing rapidly, mainly because the coffee, cardamoms, and tea of the Devikolam and Munnar estates, which have in recent years been opened out on the hills in Travancore just above it, pass

through on their way to the railway; and it is also a base for the supply of the grain and other articles consumed by the employés on these estates. It is under consideration to construct a railway to the town from Ammayanāyakkanūr on the South Indian Railway. The Bodināyakkanūr *zamīndāri* is one of the seventy-two ancient *pālaiyams* (*poligārs*' estates) of Madura. The *zamīndār's* family is said to have emigrated hither from Gooty in 1336. The estate was seized by Haidar Alī in 1776, and after an interval of semi-independence was resumed by his son Tipū for arrears of tribute. The Rājā of Travancore subsequently seized the property, but in 1793 the *zamīndār* recovered it. The country was thereafter settled by the Company's officers.

Devakottai.—Town in the Tiruvādānai *tahsīl* of the Rāmnād estate, Madura District, Madras, situated in 9° 57′ N. and 78° 51′ E. Population (1901), 9,503. The place is chiefly interesting as being the centre of the wealthy trading community of Nāttukottai Chettis, and abounds in the fine residences which these people are fond of constructing for themselves.

Dindigul Town (*Dindu-kal*, 'the rock of Dindu,' an *asura* or demon).—Head-quarters of the subdivision and *tāluk* of the same name in Madura District, Madras, situated in 10° 22′ N. and 77° 59′ E., on the South Indian Railway. The population in 1901 was 25,182, of whom 18,060 were Hindus, 3,175 Musalmāns, and 3,947 Christians. It was constituted a municipality in 1866. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 35,900 and Rs. 37,900 respectively. In 1903–4 they were Rs. 43,000 and Rs. 42,700, the former consisting chiefly of the proceeds of tolls, the taxes on houses and land, and fees from markets. A scheme for the supply of the town with water was completed in 1896 at a cost of Rs. 76,600. The extension of the head-works at a further outlay of Rs. 39,000 has been sanctioned.

Situated 880 feet above the level of the sea, Dindigul has a dry and hot but healthy climate. At a few miles' distance rise the masses of the Palni Hills and the Sirumalai range. The staples of local trade are hides, tobacco, and coffee and cardamoms from the estates on the Palni Hills, for the conveyance of which the system of roads radiating from the town affords exceptional facilities. The chief manufacture is cigar-making, 746 hands being employed by Messrs. Spencer & Co. in their important factory. Silk thread of peculiar fineness is spun by weavers of the Patnūlkāran community, and Dindigul

locks are renowned throughout the Presidency. Being the head-quarters of the subdivision, it contains the office of the divisional officer and also those of an Assistant Engineer, a District Munsif, a *tahsīldār*, and a sub-magistrate. There are two churches, one belonging to the American Mission and the other to the Roman Catholics, and also a hospital and a dispensary. The streets and roads are well laid out, and the substantial nature of the houses shows that the population is flourishing.

Dindigul was formerly the capital of a province which was practically independent of, although nominally subordinate to, the Madura kingdom. The fort which commands the town is built on a remarkable wedge-shaped rock 1,223 feet above the sea, and still remains in good preservation, having been occupied by a British garrison until 1860. As a strategical point of great natural strength dominating the passes which lead into Madura from the Coimbatore country, its possession in former times was frequently keenly contested. Between 1623 and 1659, the years of Tirumala Naik's reign, it was the scene of many encounters between the Marāthās and the Mysore and Madura troops. In the next century Chanda Sāhib (the minister of the Nawāb of the Carnatic), the Marāthās, and the Mysore troops occupied the fort in turn. In 1755 it was garrisoned by Haidar Alī, who used it as one of the bases from which he conducted his operations in the Carnatic, and to thwart British schemes in Trichinopoly and Madura. In the wars with Mysore the fort was captured by the British under Colonel Wood in 1767, and restored to Haidar Alī by treaty in 1769. It was again captured in 1783 by Colonel Lang, and again restored in 1784 under the Treaty of Mangalore. It was finally captured by Colonel Stuart in 1790 and ceded to the East India Company in 1792.

Kamudi.—Town in the Mudukulattūr *tahsīl* of the Rāmnād estate, Madura District, Madras, situated in 9° 24′ N. and 78° 23′ E. The population (1901) is 6,854, of whom 1,000 are Musalmāns. It contains a large Siva temple, which has been the subject of a famous law-suit, the Shānāns, a caste of toddy-drawers and merchants, claiming the right to enter within its precincts and the majority of the rest of the Hindus opposing their claim. The town participated in the riots which were caused in 1899 by this and other pretensions of the Shānāns, and a small force of punitive police is now quartered on it. Brass and bell-metal vessels are manufactured here.

Kāraikkudi.—Town in the Tiruppattūr *tahsīl* of the Sivaganga estate, Madura District, Madras Presidency, situated in 10° 4′ N. and 78° 47′ E. The population has rapidly increased, and numbered 11,801 in 1901, compared with 6,579 in 1891. The town is chiefly noted as one of the centres of the Nāttukottai Chettis, an enterprising class of merchants and money-lenders; and the many handsome residences which these people have constructed within it have added greatly to its appearance.

Kīlakarai.—Seaport in the Rāmnād *tahsīl* of the Rāmnād estate, Madura District, Madras, situated in 9° 14′ N. and 78° 48′ E., on the Gulf of Manaar, 10 miles south of Rāmnād, from which place it is separated by a wide morass, all but impassable in the rainy season. It is an untidy and dreary looking town, surrounded by sandy wastes and a little low scrub. The population (11,078 in 1901) consists mainly of Labbais, a Musalmān trading community. Its commerce, which is chiefly in grain, is carried on mainly with Cocanāda and Ceylon. The Labbais are experts in diving for chank-shells (*Turbinella rapa*), which are obtained principally opposite Devipatam, Tirupālakudi, and Rāmeswaram.

Kodaikānal Town ('Forest of creepers').—Head-quarters of the *tāluk* of the same name, in Madura District, Madras, situated in 10° 14′ N. and 77° 29′ E., on the Palni Hills. Formerly an insignificant hamlet of Vilpatti village, it is now one of the largest sanitaria in the Presidency. The population according to the Census of 1901 was only 1,912; but this enumeration was made in the cold season, before the influx of the numerous hot-season visitors and their following had begun. Kodaikānal was constituted a municipality in 1899. The municipal receipts and expenditure in 1903–4 were Rs. 10,700 and Rs. 9,900 respectively, most of the former being derived from the taxes on land and houses. A scheme for supplying the place with water, at a cost of Rs. 63,000, is under consideration. The station contains three churches, a school for European boys and girls managed by the American Mission, and a municipal hospital.

The sanitarium stands about 7,000 feet above sea-level. The houses of the European residents are picturesquely grouped about a natural theatre of hills surrounding an artificial lake which has been constructed at the bottom of a beautiful little valley, or on the cliff which overhangs the *ghāt* road leading up from the low country from PERIYAKULAM. The temperature of the station is similar to that of OOTACAMUND, but somewhat

milder; and, as the rainfall is lighter and the atmospheric conditions more equable than those of the Nīlgiris, the climate of the place may be said to be one of the best in India. Round about Kodaikānal are grassy rolling downs, with beautiful little woods nestling in their hollows and perennial streams flowing through them, very similar to, though somewhat steeper than, those about Ootacamund. The place is thus capable of considerable extension, and its development is at present mainly retarded by the lack of easy means of communication with the low country and the railway. The journey from the nearest railway station, Ammayanāyakkanūr on the South Indian line, to the foot of the hill where the bridle-path up the *ghāts* begins, a distance of 33 miles, is made in bullock-carts. The bridle-path makes an ascent of about 6,000 feet in 11 miles, and is quite impracticable for any wheeled vehicles. Visitors have either to ride or be carried up in chairs. The want of a cart-road also occasions difficulties in bringing up articles from the low country. A driving road through the lower Palnis and a light railway through the Periyakulam valley have been suggested as means of improving these communications, and a trace for a *ghāt* road from the Palni side has been made out. Want of funds has prevented its execution.

Near the station is the Kodaikānal Observatory, which is placed 7,700 feet above sea-level. Under the scheme for the reorganization of Indian observatories which came into operation in 1889, the chief part of the Madras Observatory was transferred to Kodaikānal, the place being preferred to Ootacamund on accound of its greater freedom from mist and cloud, and the former Government Astronomer became Director of the Kodaikānal and Madras Observatories. The appliances and powers of this observatory are now directed to the prosecution of inquiry in the sciences of terrestrial magnetism, meteorology, and seismology, and to astronomical observations for the purpose of time-keeping, but chiefly to the important subject of solar physics.

About 1,000 feet below Kodaikānal, at Shembaganūr, is a Jesuit college containing 65 students, who undergo a course of training for seven years in preparation for the priesthood.

Madura City.—Head-quarters of the District and *tāluk* of the same name, Madras, situated in 9° 55′ N. and 78° 7′ E., on the south bank of the Vaigai river, and on the main line of the South Indian Railway, 345 miles from Madras city. A branch railway has recently been opened to Mandapam on the end

of the tongue of land which runs out into the sea to meet the island of PĀMBAN. The population in 1871 was 51,987; in 1881, 73,807; in 1891, 87,428; and in 1901, 105,984. It is now the second largest town in the Presidency. Of the total inhabitants in 1901, 93,103 were Hindus, 9,122 Musalmāns, and 3,750 Christians. Being the District head-quarters, it contains the usual offices and staff. Most of the residences of the European officials were formerly in the city itself among insanitary surroundings, but of late years dwellings for some of them have been constructed in a higher and healthier situation on the opposite bank of the Vaigai.

The history of the city is largely that of the District, the religious and political life of which has from time immemorial centred in it. The earliest mention occurs in the times of the ancient PĀNDYAS, some centuries before the Christian era, and the place reached the culmination of its prestige in the middle of the seventeenth century under the Naik kings who contributed so much to its architectural adornment. Little is known of its early history. The *Sthala Purāna* (local chronicle) preserved in the great temple gives a mythical account of the foundation of that building and of the town; but the mists which enshroud the origin of the place hardly lift for any length of time until the fourteenth century, when (like the rest of Southern India) Madura was subjected to an inroad from the Muhammadans of the north. They seem to have treated its inhabitants with the greatest cruelty, and they sentenced the great temple of the city to destruction. The outer wall, with its fourteen towers, was pulled down, and the streets and buildings which it protected were destroyed. The two shrines of Sundareswara and Mīnākshi were, however, spared. The people of Madura were at last freed from the yoke of foreign despotism by Kampana Udaiyār (1372); and after the expulsion of the Musalmāns the priests of Siva regained their revenues and rebuilt the four lofty *gopurams* or tower-gateways which now stand in the outer wall of the temple. The middle of the sixteenth century saw the foundation of the Naik dynasty already referred to; and the *sahasra-stambha mantapam* or Hall of a Thousand Pillars, one of the principal structures in the building, was erected by Arya Naik Mudali, the general and minister of Viswanātha, the first ruler of that line. The temple forms a parallelogram 850 feet long from north to south by 750 feet broad, surrounded by nine *gopurams*, one of which is 150 feet high. These are conspicuous features of the landscape for miles around. The building is profusely ornamented

with sculpture and paintings, and owns a large number of valuable jewels. The groups of figures carved from single huge stones in the Hall of the Thousand Pillars and elsewhere are marvels of industry and elaboration. The temple is sacred to Siva in his form Sundareswara and to the local goddess Mīnākshi.

The other important buildings of Madura are all associated with the name of Tirumala Naik, who reigned from 1623 to 1659. The chief of these is his palace, the most perfect relic of secular architecture in the Madras Presidency. The District Court and other offices are now located in this building, which has been successfully restored by Government. The main structure consists of two parts, an open court and a lofty hall. The former measures 244 feet east and west by 142 feet north and south, and is surrounded on all sides by arcades of very great beauty. The pillars which support the arches are of stone, 40 feet in height, and are joined by foliated brick arcades of great elegance of design. The whole of the ornamentation is worked out in the exquisitely fine stucco called *chunām*, made from shell-lime, which is characteristic of the Presidency. On one side of the court stands an apartment which was formerly the throne-room of the palace. It is an arcaded octagon, covered by a dome 60 feet in diameter and the same in height. On another side is a splendid hall 120 feet by 67 feet and 70 feet high to the centre of its roof, one of the chief peculiarities of which is the resemblance of its style to Gothic architecture. Next in importance to this palace is the Vasanta or Pudu Mantapam, which is said to have been built as a summer retreat for the god Sundareswara. It consists of a hall 333 feet long by 105 feet wide. The roof is flat and rests on four rows of stone pillars, all of which are different in design and are elaborately decorated with the characteristic images and emblems of the Hindu religion, life-size figures, and conventional carving. On the northern bank of the Vaigai stands the Tamakam, a building of quaint semi-Moorish architecture, said to have been erected as a pleasure-house from which to view combats between wild beasts. It is now the official residence of the Collector. Lastly, the Teppakulam, a great tank about a mile and a half east of the town, is also assigned to the time of Tirumala. This reservoir is a perfect square, measuring 1,200 feet each way. Its sides are faced with granite and surmounted by a handsome parapet, also of granite, beneath which runs a continuous paved gallery. In the centre rises a square island with a lofty domed temple in the middle

and a tiny shrine at each corner. Once a year the tank is illuminated by 100,000 lights.

Madura city was constituted a municipality in 1866. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 1,49,000 and Rs. 1,74,000 respectively. In 1903–4 the income was Rs. 2,32,000, including water tax (Rs. 28,000), the tax on buildings (Rs. 57,000), tolls (Rs. 26,000), and the tax on professions (Rs. 12,500). The chief items in the expenditure, which amounted to Rs. 2,18,000, were water-supply and conservancy (Rs. 70,000) and medical services (Rs. 17,000). The water-works, which derive their supply from underground springs in the bed of the Vaigai river, were completed in 1894. Estimates for increasing the quantity of water available by constructing a receiving gallery across the river are under consideration. A scheme for the drainage of the central part of the town has also been drawn up.

Madura is the industrial and educational centre of the District. Its chief industry is weaving. The silk-weavers, called Patnūlkārans, are immigrants from Gujarāt and speak a dialect of Gujarātī. It is said that their forefathers were induced to settle in Madura by Tirumala Naik. They claim to be Brāhmans, and call themselves by Brāhmanical titles. The women and children are employed in the preliminary operations of preparing the thread and warp, while the men do the dyeing and the actual weaving. They make pure silk fabrics and also cloths of mixed silk and cotton. The number of looms at work is about 2,000.

The Madura Mills Company, established in 1892, employs 1,760 hands in its steam cotton-spinning mill. The daily output of yarn averages 16,000 pounds. Of the raw material five-sixths is grown in India and one-sixth is imported from Egypt. A fine variety of yarn made here is dyed turkey-red and sold locally. The coarser counts are mainly exported to China if the rate of exchange for silver be favourable.

The two Arts colleges in the District, the Madura Native College and the American Mission College, are both at Madura. The former has 69, and the latter 27, students reading in the higher classes. The Native College took the place of a former Government college, and is now managed by a committee of native gentlemen presided over by the Collector. Its school department contains 925 pupils, and that of the Mission College 371. Other large educational institutions are the Setupati high school, now amalgamated with the Native high school, and the American Mission school. The Madura

Technical Institute, maintained by the District board, gives instruction in drawing, carpentry and carving, and blacksmiths' and fitters' work, and in the manufacture of articles from aluminium and rattan. The number of pupils is 130, and the work turned out in 1903–4 was valued at Rs. 19,000. The technical schools of the District have altogether 245 pupils. A new municipal hospital is now being built. The Albert Victor Hospital belonging to the American Mission is an admirably equipped institution. The town also possesses a maternity hospital.

Manaar, Gulf of.—A portion of the Indian Ocean bounded on the west by Tinnevelly and Madura Districts in the Madras Presidency, on the north by the ridge of rock and islands known as ADAM'S BRIDGE, and on the east by the coast of Ceylon. It lies between 8° and 9° N. and 78° and 80° E. Its extreme breadth from CAPE COMORIN, the southernmost point of India, to Point de Galle, the southernmost point of Ceylon, is about 200 miles. The gulf abounds in dangerous shoals and rocks at the northern extremity, and is exposed to the fury of both the monsoons, being quite open towards the south-west and only partially protected by the Ceylon coast on the north-east.

Melūr Town.—Head-quarters of the *tāluk* of the same name in Madura District, Madras, situated in 10° 2′ N. and 78° 20′ E., on the main road between Madura and Trichinopoly. It is a Union with a population (1901) of 10,100; and since the extension of irrigation in the neighbourhood by means of the Periyār Project, the place has risen in wealth and importance as an agricultural centre. The American Mission has a station here.

Palk Strait.—Palk Bay is a gulf lying between the east coast of the Madras Presidency and the northern part of Ceylon, in about 9° and 10° N. and 79° and 80° E. It is named after Robert Palk, Governor of Madras (1755–63). The gulf is bounded by POINT CALIMERE and the coast of Tanjore to the northward and westward; by ADAM'S BRIDGE and the islands at either end of it to the south; and by the northern part of Ceylon and the adjacent islands to the east. The Dutch recognized three channels leading between Point Calimere and the northern end of Ceylon into Palk Bay; but probably only one of these can be considered safe for large ships. This is the Palk Strait. Shoals, currents, sunken rocks, coral reefs, and sandy spits abound on either side, rendering the passage one of some difficulty and danger. The north-east

monsoon often sweeps down the Strait into Palk Bay with great fury, and there is frequently a heavy and confused swell at the southern end near PĀMBAN ISLAND. The effect of the south-west monsoon is, however, but little felt.

Palni Town.—Head-quarters of the *tāluk* of the same name in Madura District, Madras, situated in 10° 28′ N. and 77° 31′ E., 34 miles west of Dindigul, and 69 miles north-west of Madura city. The population in 1901 was 17,168. Palni was created a municipality in 1886. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 14,300 and Rs. 13,800 respectively. In 1903–4 the income, most of which was derived from tolls and the taxes on houses and land, was Rs. 20,400, and the expenditure was Rs. 20,000. The chief object of interest is an ancient temple to Subrahmanya, which is resorted to by crowds of devotees from many parts of Southern India and especially from Malabar. The town at present suffers from lack of railway communication, but several schemes for remedying this are under consideration.

Pāmban.—The island of Pāmban is part of the RĀMNĀD ESTATE in Madura District, Madras. Its central point is in 9° 16′ N. and 79° 18′ E., and it lies between the mainland of Madura District on the west and Ceylon on the east, being separated from the former only by a narrow passage or channel which opens on the north into the waters of PALK STRAIT and on the south into the GULF OF MANAAR. The island is about 11 miles long by 6 wide. The eastern half is merely a narrow strip of sand running down to join ADAM'S BRIDGE; and the remainder is based on rock of coral formation, and is chiefly covered by thorny acacias or by swamp, there being little cultivation of any kind. The chief town is RĀMESWARAM, noted for its ancient temple.

The town of Pāmban, which is said to derive its name from the tortuous, snake-like course of the above-mentioned channel, which it overlooks, is situated at the western extremity of the island in 9° 17′ N. and 79° 14′ E., and is one of the two largest seaports in Madura District. In 1901 the population was 3,462. A lighthouse rises 97 feet above high-water mark, showing a light visible at a distance of 12 or 14 miles. It is one of the chief points of departure for emigrants and other passengers to Ceylon, and it also receives the numerous pilgrims who visit the shrine at Rāmeswaram. The Ceylon Government has an emigration dépôt here. The number of passengers and pilgrims who arrive at it has increased considerably since the opening of the railway from Madura to Mandapam, on the

mainland opposite the channel. The inhabitants of the town are chiefly engaged as sailors, pilots, and divers. The climate is considerably cooler than that of the mainland, and the town was formerly used as a health-resort by European officials. The ruins of a Dutch fort are still to be seen.

Pāmban Passage or Channel is a partly artificial channel which runs between the western extremity of Pāmban Island and the mainland of India, connecting Palk Strait and the Gulf of Manaar. It has been deepened by the Government in order to allow sea-going ships to pass along by this quicker and more sheltered route instead of having to go round the island of Ceylon. Geological evidence tends to show that in former times the gap was bridged by a continuous isthmus; and until it was deepened the passage was quite impracticable for ships, being obstructed by two parallel ridges of rock reaching just above high-water mark and about 140 yards apart, the space between which was occupied by a confused mass of rocks lying for the most part parallel to the ridges in horizontal strata of sandstone formation. The first proposal to deepen this channel for traffic was made by Colonel Manuel Martinez, who brought the matter to the notice of Mr. Lushington, then Collector of the Southern Provinces and afterwards Governor of Madras. Nothing, however, was done until 1822, when Colonel De Havilland recommended the institution of a regular survey, which was entrusted to Ensign (afterwards Sir Arthur) Cotton, whose name is honourably associated with other great engineering projects in Southern India. Cotton's opinion was favourable; but other matters diverted the attention of Government until 1828, when Major Sim was instructed to undertake experiments in blasting and removing the rocks. His reports will be found at length in the *Journal of the Royal Geographical Society* (vol. iv). The first scientific marine survey of the channel was conducted in 1837 by Lieutenants Powell and Ethersey of the Indian Navy, assisted by Lieutenants Grieve and Christopher. The charts made on this occasion still remain the standard authority. Operations for deepening and widening the channel were begun in 1838 and continued for many years. It is now about 80 feet wide, 14 feet deep as a minimum, and 4,232 feet in length, and is used to a large extent by coasting vessels. Navigation through it requires care, as the current is sometimes very strong.

It has now come to be recognized that, if ocean steamers are ever destined to run north of the island of Ceylon, the best route will be a ship canal across the island of Pāmban. It has

been already mentioned that the Madura-Pāmban railway has been carried as far as the point on the mainland which faces Pāmban town. Proposals are now under consideration to bridge the channel and to carry the railway across it to Rāmeswaram; to cut a canal through Pāmban Island large enough to take sea-going ships; to establish a ship-basin in one part of this canal and connect it with the railway; and eventually to continue the railway across Adam's Bridge to Ceylon. Details of these schemes have not yet been worked out; but it is anticipated that the completion of the first part of them would result in the creation of a port on the island which would attract much shipping, since the new route would afford a much shorter passage between the southern extremity of the Indian Peninsula and the ports along the north-east coast than the present voyage round Ceylon. Pāmban Island would form a natural breakwater which would enable large ships to anchor in still water during either monsoon—to the north when the south-west wind was blowing and to the south during the north-east current. There is 6 fathoms of water close to the shore of the island on both the north and the south.

Paramagudi Town.—Head-quarters of the *tahsīl* of the same name in the Rāmnād estate, Madura District, Madras, situated in 9° 32′ N. and 78° 36′ E., on the south bank of the Vaigai river, on the road from Rāmnād to Madura, and one of the more important stations on the railway between these two places. The population in 1901 was 16,134 and is rapidly growing. It is the head-quarters of a deputy-*tahsīldār* and of a District Munsif. The chief industry is the weaving of silk cloths. Hand-painted chintzes used to be made formerly, but the industry is now dead.

Periyakulam Town.—Head-quarters of the *tāluk* of the same name in Madura District, Madras, situated in 10° 7′ N. and 77° 33′ E., on the banks of the Varāhanadī, about 45 miles west of Madura town and 35 miles south-west of Dindigul. Population (1901), 17,960. The town was created a municipality in 1886. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 15,600 and Rs. 15,400 respectively. In 1903–4 the income, most of which was derived from tolls and the taxes on land and houses, was Rs. 19,800, and the expenditure was Rs. 20,500. A scheme for supplying water is under consideration. The town is an important centre for the trade of the Kambam Valley, and, being distant only 5 miles from the foot of the *ghāt* by which the ascent is made to KODAIKĀNAL, has a considerable trade

in grain and fruit with that place and the adjoining hill villages.

Periyār Project, The.—The Periyār ('big river') is a river of Southern India which rises on the western side of the range of the Western Ghāts, and flows down to the Arabian Sea through the Native State of Travancore. The area through which it passes is within the zone of the heaviest rainfall in the south of India, and the crops there are grown by the aid of rain alone and without irrigation. Consequently the water of the Periyār for many centuries ran uselessly to the sea. The great project to which the river gave its name consists in the construction of a huge masonry dam across the upper waters of the river, in Travancore territory, forming a great lake, and taking the water of this lake through a tunnel in the Western Ghāts across to the opposite, or eastern, slope of that range to supply the arid areas which lie immediately below it on that side. In short, a great river which formerly ran down one side of a mountain range has been bidden to turn back and flow down the other side of it. The lake has an area of 8,000 acres, in Travancore territory, which land has been rented from that State for Rs. 40,000 per annum. The height of the dam, which is situated in 9° 32′ N. and 77° 7′ E., is 173 feet, and it is made of solid masonry throughout. The tunnel through the Ghāts is 5,704 feet lọng, and the open cutting or debouchure on the northern side which leads to it from the lake adds 500 feet to its length. The tunnel proper has an entrance sluice 12 feet wide by 7½ feet high and a gradient of 1 in 75, and is drilled through hard granite. The bed of the Vaigai river is utilized for some distance to carry the water to places where it is wanted, and the scheme includes in addition 36 miles of main canal and 190 miles of distributaries. Up to 1904 the total capital cost of the Project had been 92 lakhs.

The scheme was suggested as early as the commencement of last century, but was at first thought to be chimerical. It was revived in 1862, but it was not until 1882 that a beginning was seriously made with the preparation of estimates for the project. The success of the work was mainly due to the efforts of Colonel Pennycuick, R.E., C.I.E., Chief Engineer to the Madras Government. It was carried to completion in the face of enormous difficulties, the country being entirely uninhabited and most inaccessible, the climate infected with deadly malaria, the difficulty of getting labour and transport immense; and many of the technical problems involved in the work were of an entirely new description. The foundations of the dam

were carried away time after time before they had proceeded sufficiently to be out of the reach of floods, and unforeseen difficulties and trials had constantly to be met and overcome. The official *History* of the Project, by Mr. A. T. Mackenzie, one of the staff of engineers who carried it to completion, gives a full account of the undertaking and the manner in which it was effected.

It is too soon as yet to judge of the financial result of the Project, as the whole of the land commanded has not yet been prepared for 'wet' cultivation by the ryots and so cannot be supplied with water. At the end of 1903–4 the total area of land irrigated, including second-crop cultivation, was 142,000 acres, and the net revenue was Rs. 3,55,000, giving a profit of 3·86 per cent. on the capital outlay. The total cultivable area commanded by the main canal and its twelve branches is 121,000 acres, including land of all classes. The supply available is probably sufficient for only about 111,000 acres; and the most important problem that now remains is concerned with the extension of the system, by forming a second reservoir in which to store the surplus water which still runs to waste.

Rāmeswaram.—Town in Madura District, Madras, situated in 9° 17′ N. and 79° 19′ E., on the island of PĀMBAN. Population (1901), 6,632. It contains one of the most venerated Hindu shrines in India, which was founded, according to tradition, by Rāma himself as a thank-offering for his success in his expedition against Rāvana, the ten-headed king of Ceylon, who had carried off his wife, Sītā. For centuries the temple has been the resort of thousands of pilgrims from all parts of India; and until recently they had to traverse on foot the inhospitable wastes of the RĀMNĀD ESTATE which separated it from the nearest railway station at Madura. The pilgrimage is now rendered easy by the railway which has lately been built from that place to Mandapam, a point on the mainland facing the town of Pāmban, 8 miles from Rāmeswaram.

The great temple stands on slightly rising ground in the north-eastern part of the island. It is in the form of a quadrangular enclosure 650 feet broad by about 1,000 feet long, and is entered by a gateway surmounted by a *gopuram* or tower 100 feet high. The oldest portion is built of a dark and hard limestone, traditionally said to have been brought from Ceylon, while the more modern parts are constructed of a friable sandstone quarried in the island itself. The inner *prākāram* or

corridor is ascribed to the piety of an early Madura Naik, while the outer *mantapam* was the work of two of the Rāmnād chiefs or Setupatis, with the history of whose line, as the 'lords of the causeway' leading from the mainland to Pāmban Island and the protectors of the pilgrims, the history of the temple has for centuries been intimately connected.

Mr. Fergusson in his *History of Indian Architecture* thus describes the building:—

'If it were proposed to select one temple which should exhibit all the beauties of the Dravidian style in their greatest perfection and at the same time exemplify all its characteristic defects of design, the choice would almost invariably fall upon that at Rāmeswaram. In no other temple has the same amount of patient industry been exhibited as here; and in none unfortunately has that labour been so thrown away, for want of a design appropriate to its display. It is not that this temple has grown by successive increments; it was begun and finished on a previously settled plan, as regularly and undeviatingly carried out as Tanjore, but on a principle so diametrically opposed to it that, while the temple at Tanjore produces an effect greater than is due to its mass or detail, this one, with double its dimensions and ten times its elaboration, produces no effect externally, and internally can only be seen in detail, so that the parts hardly in any instance aid one another in producing the effect aimed at.

'Externally, the temple is enclosed by a wall 20 feet in height with four *gopurams*, one on each face, which have this peculiarity, that they alone, of all those I know in India, are built wholly of stone from the base to the summit. The western one alone, however, is finished. Those on the north and south are hardly higher than the wall in which they stand, and are consequently called the ruined gateways. Partly from their form, but more from the solidity of their construction, nothing but an earthquake could well damage them. They have never been raised higher, and their progress was probably stopped in the beginning of the last century, when Muhammadans, Marāthās, and other foreign invaders checked the prosperity of the land, and destroyed the wealth of the priesthood. The eastern façade has two entrances and two *gopurams*. The glory of the temple, however, is in its corridors. These extend to a total length of nearly 4,000 feet. Their breadth varies from 20 feet to 30 feet of free floor space, and their height is apparently about 30 feet from the floor to the centre of the roof. Each pillar or pier is compound, and richer and more elaborate in design than those of the Pārvatī porch at Chidambaram, and certainly more modern in date.

'None of our English cathedrals is more than 500 feet long, and even the nave of St. Peter's is only 600 feet from the door to the apse. Here the side corridors are 700 feet long,

and open into transverse galleries as rich in detail as themselves. These, with the varied devices and modes of lighting, produce an effect that is not equalled certainly anywhere in India. The side corridors are generally free from figure sculpture, and consequently from much of the vulgarity of the age to which they belong, and, though narrower, produce a more pleasing effect. The central corridor leading from the sanctuary is adorned on one side by portraits of the Rājās of Rāmnād in the seventeenth century, and, opposite them, of their secretaries. Even they, however, would be tolerable, were it not that within the last few years they have been painted with a vulgarity that is inconceivable on the part of the descendants of those who built this fane. Not only these, but the whole of the architecture has first been dosed with repeated coats of whitewash, so as to take off all the sharpness of detail, and then painted with blue, green, red, and yellow washes, so as to disfigure and destroy its effect to an extent that must be seen to be believed.

'The age of this temple is hardly doubtful. From first to last its style, excepting the old *vimāna*, is so uniform and unaltered that its erection could hardly have lasted during a hundred years; and if this is so, it must have been during the seventeenth century, when the Rāmnād Rājās were at the height of their independence and prosperity, and when their ally or master, Tirumala Naik, was erecting buildings in the same identical style at Madura. It may have been commenced fifty years earlier (1550), and the erection of its *gopurams* may have extended into the eighteenth century; but these seem the possible limits of deviation.'

Rāmnād Town (*Rāmanātha-puram*, 'the town of Rāmanātha').—Head-quarters of the subdivision, *zamīndāri*, and *tahsīl* of the same name in Madura District, Madras, situated in 9° 22′ N. and 78° 51′ E., with a station on the Madura-Pāmban Railway. Population (1901), 14,546. The town is the headquarters of the divisional officer and of an Assistant Superintendent of police, and contains a Protestant church belonging to the Society for the Propagation of the Gospel, and two Roman Catholic places of worship. It is also the residence of the Rājā of Rāmnād, whose palace, a large rambling building, stands at the end of the chief street. It lies in the midst of ugly and uninteresting country, and its redeeming point is its climate, which is never very hot and is generally tempered by a breeze from the sea. The town was taken by General Smith in 1772, and was under military occupation in 1792. The fortifications, now destroyed, consisted of a wall 27 feet high and 5 feet thick, surrounded by a fosse. In the centre was the palace of the chiefs.

Sivaganga Town.—Head-quarters of the *tahsīl* and *zamīndāri* of the same name in Madura District, Madras, situated in 9° 51′ N. and 78° 30′ E., about 10 miles from Mānāmadurai station on the South Indian Railway. Population (1901), 9,097. It is a Union and the head-quarters of a deputy-*tahsīldār*. Brass fancy articles, especially excellent figures of lizards, scorpions, and the like, are manufactured. The town is a pleasant place, and in its fertile red soil grow most of the trees and plants of the eastern coast. It contains the palace of the *zamīndārs* of Sivaganga, and is the head-quarters of the European lessees who now have possession of their estate.

Tirumangalam Town.—Head-quarters of the *tāluk* of the same name in Madura District, Madras, situated in 9° 50′ N. and 77° 59′ E., on the main line of the South Indian Railway, about 12 miles south of Madura city. Population (1901), 8,894. The town is said to owe its origin to a Vellāla colony dating from 1566. It is noted for its dyed cloths, and contains a cotton-ginning factory. The air of the place is considered to be particularly favourable to the recovery of persons suffering from asthma.

Tiruppattūr Town.—Head-quarters of the *tahsīl* of the same name in the Rāmnād subdivision of Madura District, Madras, situated in 10° 7′ N. and 78° 37′ E. Population (1901), 5,881. Except that it was once the residence of a petty chief and is now the head-quarters of the deputy-*tahsīldār*, it is a place of no particular interest.

Uttamapālaiyam.—Town in the Periyakulam *tāluk* of Madura District, Madras, situated in 9° 49′ N. and 77° 20′ E., on the Suruli river, about 24 miles south-west of Periyakulam. Population (1901), 10,009. It was formerly the head-quarters of one of the ancient *pālaiyams* or feudal estates of Madura. Since the advent of the water of the PERIYĀR PROJECT the place has risen in importance, being the first large town benefited thereby. It is the head-quarters of a deputy-*tahsīldār*.

TINNEVELLY DISTRICT

Boundaries, configuration, and hill and river systems.

Tinnevelly District (*Tirunelveli*).—A District of the Madras Presidency which occupies the eastern half of the extreme southern end of the Indian Peninsula. It lies between 8° 9′ and 9° 43′ N. and 77° 12′ and 78° 23′ E., and has an area of 5,389 square miles, with an extreme length of 120 miles from north to south and a maximum width of 75 miles near the Madura frontier. In shape it is roughly triangular, having the WESTERN GHĀTS as its western and the sea as its eastern and southern boundary. On the north it is separated from Madura District by no natural features, but by a parallel drawn east and west through the town of Virudupatti.

The southernmost hills of the Western Ghāts serve as a natural barrier between the west side of the District and the State of Travancore up to within a few miles of CAPE COMORIN, the extreme southern point of the Indian Peninsula. These hills vary from 3,000 to 5,000 feet in height and are clothed with heavy forest. AGASTYAMALAI, half in Tinnevelly and half in Travancore, is their highest peak, rising to 6,200 feet; it was formerly an important astronomical station. Mahendragiri, another peak 14 miles from NĀNGUNERI, 5,370 feet high, is reputed to be the hill from which the monkey-god Hanumān jumped across to Lanka (Ceylon) when he went to gather news of Sītā, the wife of Rāma, whom Rāvana, the demon-king of Ceylon, had carried off.

From the base of the Ghāts, where the country is nowhere higher than about 750 feet, the District slopes down eastward to the sea. Besides the Ghāts there is no range worth the name except the Vallanād Hills in the Srīvaikuntam *tāluk*, which rise abruptly from the surrounding plain to a height of over 1,000 feet and form a pleasing contrast to the level ground around them. Along the base of the Ghāts is a belt from 10 to 20 miles wide of red loam and red sand, and fringing the sea is a strip of sandy soil from 3 to 15 miles in breadth. These two tracts widen out and overlap one another as they go southward, and occupy the whole of the country to the south of Tinnevelly town. Between them,

to the north, the intervening space is occupied by broad plains of black cotton soil.

All the rivers of the District have their sources in the Ghāts and run eastwards to the sea. The TĀMBRAPARNI, the most important of them, rises on the southern slope of the Agastyamalai peak and, after a south-easterly course of 70 miles, empties itself into the Gulf of Manaar. The Chittār, a much smaller stream, drains the mountains on the western border of the Tenkāsi *tāluk* and joins the Tāmbraparni a few miles north-east of Tinnevelly town. The Vaippār, which rises in the Sankaranayinārkovil Hills, though a stream of considerable size, does not contribute much to the prosperity of the District, as its supply is too sudden and occasional to be of use in irrigation.

Geology. The geological basis of the District is a continuation of the gneiss rock of which the mountains on the west consist. In the plains this is largely covered by more recent formations, but protrudes through them in isolated patches or rounded and often conical masses, some of which supply excellent stone for building and road-making. Of the strata which overlie the gneiss rock, the principal are: first, a quartz, having a considerable percentage of iron, and appearing through the soil in the pale red ridges which are such conspicuous objects in all the *tāluks* bordering the Ghāts; secondly, a nodular limestone or *kankar* underlying a poor stony soil, which is chiefly found in the central portion of the District; and, thirdly, sandstone alternating with claystone, which forms a coast series and follows the line of the shore at a distance of about 10 miles. This last originally formed a nearly continuous ridge rising to about 300 feet, and through this the rivers descending from the Ghāts have cut their way down to the sea. Round about it lie the *teri* tracts, the surface of which consists entirely of blown sand, and which form one of the most peculiar natural features of the District. In the north, the rock which underlies the plains is covered with a wide spread of black cotton soil, extending from the Madura boundary southward for about 60 miles and having an average breadth of 40 miles. Lastly, we have the river alluvium, which forms a narrow but extremely rich strip on either side of the Tāmbraparni and Chittār rivers.

Botany. The District comprises tracts of wide differences in rainfall and elevation, and its flora is consequently varied. Along the sea-shore are salt swamps and the red-sand wastes known locally as *teris*; and the plants of these differ widely from those of

the central plain, which resemble those in the rest of the similar tracts on the east coast. The varying levels of the Ghāts each have their own distinctive flora, the most interesting, perhaps, being the heavy evergreen forest. The characteristic tree of the plains is the palmyra palm, which covers wide areas to the exclusion of all other trees, and is a notable factor in the economic condition of the country.

On the plains of the District there is little in the way of large game, only antelope and occasional leopards being met with, but on the Ghāts occur the wild animals usual in heavy forest of high elevation. The Nīlgiri ibex is found in several localities along this range. Fauna.

The principal characteristics of the climate of Tinnevelly are light rainfall and an equable temperature. In the hot months, from March to June, the thermometer rarely rises above 95° in the shade; in the coolest months, December and January, it seldom falls below 77°. The mean temperature of Tinnevelly town is 85°, which is the highest figure in the Presidency. This unenviable position is, however, attained less by the heat of its hot weather than by the absence of any really cold season. From June onwards, as long as the south-west monsoon lasts, the heat in the tracts lying at the foot of the Ghāts is sensibly diminished by the winds and slight showers which find their way through the various gaps and passes in that range. Climate and temperature.

The rainfall is greatest near the hills and least on the eastern side of the District. In Tenkāsi and Ambāsamudram the maximum is nearly 60 inches, while the minimum is about 20 inches. In other parts of the District the fall varies from between 40 and 50 inches as a maximum to between 10 and 15 inches as a minimum. The average annual amount received in the District as a whole is about 25 inches, which is one of the lowest figures in the Presidency. But though its rainfall is scanty, Tinnevelly gets the benefit of the two monsoons, as both cause freshes in the Tāmbraparni. These, indeed, occasionally rise very high and do considerable damage. Rainfall.

Until the eighteenth century the history of Tinnevelly is almost identical with that of Madura District, sketched in the separate article on the latter. The capital of the first rulers of Madura, the PĀNDYAS, is reputed to have been at one time within Tinnevelly District at KOLKAI near the mouth of the Tāmbraparni. Tirumala Naik, the most famous of the Naik dynasty of Madura, built himself a small palace at SRĪVILLIPUTTŪR in the north-west corner of the District. History and archaeology.

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In 1743, when the Nizām-ul-mulk, the Sūbahdār of the Deccan, expelled the Marāthās from most of Southern India, Tinnevelly passed under the nominal rule of the Nawābs of Arcot. All actual authority, however, lay in the hands of a number of independent military chiefs called *poligārs*, originally feudal barons appointed by the Naik deputies who on the fall of that dynasty had assumed wider powers. They had forts in the hills and in the dense jungle with which the District was covered, maintained about 30,000 brave (though undisciplined) troops, and were continually fighting with each other or in revolt against the paramount power. A British expedition under Major Heron and Mahfūz Khān in 1755 reduced Tinnevelly to some sort of order, and the country was rented to the latter. But he was unable to control the *poligārs*, who formed themselves into a league for the conquest of Madura and advanced against him. They were, however, signally defeated at a battle fought 7 miles north of Tinnevelly. But the utter failure of Mahfūz's government induced the Madras Government to send an expedition under Muhammad Yūsuf, their sepoy commandant, to help him. This man eventually became renter of Tinnevelly, but rebelled in 1763 and was taken and hanged in the following year. Thenceforth the troops in Tinnevelly were commanded by British officers, while the country was administered, on behalf of the Nawāb, by native officials. As this system of divided responsibility was not conducive to the general pacification of the country, the Nawāb was induced, in 1781, to assign the revenues to the East India Company, and civil officers, called Superintendents of Assigned Revenue, were appointed for its administration. The British, however, were at that time too busy with the wars with Haidar Alī to be able to pacify the country thoroughly, and the *poligārs* continued to be troublesome. Encouraged by the Dutch, who had expelled the Portuguese from the Tinnevelly coast in 1658, obtained possession of the pearl fishery, and established a lucrative trade, they were soon again in open rebellion. In 1783 Colonel Fullarton reduced the stronghold at Pānjalamkurichi, near Ottappidāram, of Kattabomma Naik, the most formidable of them. In 1797 the *poligārs*, headed by Kattabomma, again gave trouble, joining a rebellion which broke out in the Rāmnād territory. In 1799 Seringapatam fell and the Company's troops were at last free to move. A force was sent to Tinnevelly under Major Bannerman to compel obedience, and the first Poligār War followed. Pānjalamkurichi was taken, its *poligār* hanged,

and the estates of his allies confiscated. Some of the *poligārs*, notably the chief of Ettaiyāpuram, helped the English. Two years later, some dangerous characters who had been confined in the fort at PĀLAMCOTTAH broke loose and raised another rebellion. The operations which followed are known as the second Poligār War. Pānjalamkurichi fell after a most stubborn resistance, the fort was destroyed, and the site of the place was ploughed over. The ringleaders of the rebellion were hanged, others who had assisted in it were transported, and the possession of arms was prohibited. In 1801 the Company assumed the government of the whole of the CARNATIC under a treaty with the Nawāb, making him a pecuniary allowance. Tinnevelly thus came absolutely into British hands and from that date its history has been peaceful.

As the reputed seat of the earliest Dravidian civilization, the District possesses much antiquarian interest. The most noteworthy archaeological remains are the sepulchral urns found buried in the sides of the red gravel hills which abound in different parts of the District. Those at Adichanallūr, 3 miles from Srīvaikuntam, the most interesting prehistoric burial-place in all Southern India, are noticed in the separate article on that place. Kolkai and Kāyal, near the mouth of the Tāmbraparni, were the capitals of a later race, but nothing now remains to mark their ancient glory. Among the many temples in the District, those at Tiruchendūr, Alvār Tirunagari, Srīvaikuntam, Tinnevelly, Nānguneri, Srīvilliputtūr, Tenkāsi, Pāpanāsam, Kalugumalai, and Kuttālam, deserve special mention. Ancient Roman coins are not uncommon in Tinnevelly, and those of the old Pāndyan kings are numerous. Some Venetian gold ducats have also been unearthed in the District.

The District contains 29 towns, or more than any other in the Presidency, and 1,482 villages. It is made up of the nine *tāluks* of Ambāsamudram, Nānguneri, Ottappidāram, Sankaranayinārkovil, Sāttūr, Srīvaikuntam, Srīvilliputtūr, Tenkāsi, and Tinnevelly, the head-quarters of which are at the places from which they are respectively named. Statistical particulars of these, according to the Census of 1901, will be found on the next page. The people.

The population of the District in 1871 was 1,693,959; in 1881, 1,699,747; in 1891, 1,916,095; and in 1901, 2,059,607. The last total was made up of 1,798,519 Hindus, 101,875 Musalmāns, and 159,213 Christians. Between 1871 and 1881, owing to the famine of 1876-8, the population was almost

stationary. During the next ten years the rate of advance was probably slightly abnormal, owing to the usual rebound after scarcity; and in the decade 1891–1901 the increase was about equal to that in the Presidency as a whole. Emigration from the District was, however, considerable during that period. Few people move into it, and the proportion of the inhabitants who had been born within it was higher in 1901 than in any of the southern Districts. In density of population it is above the average for those Districts; the Tinnevelly and Srīvaikuntam *tāluks* support nearly 600 persons per square mile. Between 1891 and 1901 the population of the Ambāsamudram *tāluk* declined, while that of the adjoining area of Nānguneri advanced abnormally. The reason for this was that in the former year the rice harvest in Ambāsamudram, which always attracts coolies from Nānguneri, was going on at the time of the Census.

Tāluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Sāttūr	560	3	206	186,694	333	+ 1·3	17,635
Srīvilliputtūr	585	4	94	205,745	352	+ 8·0	14,463
Tinnevelly	328	2	123	194,647	593	+ 5·4	27,632
Sankaranayinār-kovil	717	2	123	232,980	325	+ 9·0	16,584
Ottappidāram	1,072	2	394	358,568	334	+ 4·8	36,980
Srīvaikuntam	542	7	134	321,534	593	+ 11·8	40,338
Ambāsamudram	481	4	85	182,481	379	− 0·6	19,986
Tenkāsi	374	3	92	174,430	466	+ 12·6	14,755
Nānguneri	730	2	231	202,528	277	+ 16·1	16,459
District total	5,389	29	1,482	2,059,607	382	+ 7·5	204,832

The District contains more towns and a larger urban population than any other in Madras. About 23 per cent. of the people live in towns, which is more than twice the proportion for the Province as a whole. These places, however, are not large cities. None of them contains more than 50,000 inhabitants, and only 5 out of the 29 possess more than 25,000. These are the four municipalities of Tinnevelly (population, 40,469), Pālamcottah (39,545), the head-quarters of the District, Tuticorin (28,048), and Srīvilliputtūr (26,382), and the large Union of Rājapālaiyam (25,360). Sixteen other Unions have a population of more than 10,000 each. The growth of these towns during the decade 1891–1901 was remarkable. The

population of both the municipalities and the Unions advanced in the aggregate by nearly one-half. In some cases the increase is partly due to the extension of the official limits of the towns to include suburbs; but such extensions would not have been made unless these suburbs had advanced in populousness and urban characteristics, and the statistics are therefore signs of real growth.

Tamil is the prevailing vernacular, being spoken by 86 per cent. of the total; but Telugu is the language of 13 per cent., being spoken by more than one-fifth of the inhabitants of the Ottappidāram and Srīvilliputtūr *tāluks* and by nearly a third of those of Sāttūr.

Their castes and occupations.

The majority of the Musalmāns of the District are Labbai traders. Christians are proportionately more numerous (8 per cent. of the total) than anywhere else, except in the Nīlgiris. They have, however, increased more slowly during the last twenty years than the population as a whole.

The great majority of the Hindus are Tamils. The three most numerous castes are the Shānāns (294,000), the Pallans (234,000), and the Maravans (211,000), each of which are found in greater strength in Tinnevelly than in any other District. The first are really even more numerous than the figures show, as at the Census some thousands entered themselves as Kshattriyas, to which aristocratic body they have in recent years claimed to belong. There can be little doubt that, though large numbers of them now subsist by agriculture and trade, they originally followed the despised calling of toddy-drawing; and in consequence of this the claims to be Kshattriyas and to enter Hindu temples which they have of late years put forward with much tenacity caused great resentment among the other Hindus of the District, which finally culminated in the Tinnevelly riots of 1899 referred to below. Their chief opponents in these disturbances were the Maravans, a community of cultivators practically confined to Madura and Tinnevelly, who have a reputation for truculence. With the Kallans they gave much trouble during the Poligār Wars, and they still have an unenviable name for their expertness in dacoity and cattle-lifting. In 1899 it was calculated that, though the Maravans formed only 10 per cent. of the population of the District, they were responsible for 70 per cent. of the dacoities which had occurred during the previous five years.

Larger numbers than usual of the population of Tinnevelly are occupied in toddy-drawing and selling, weaving, rice-pounding,

and goldsmith's work, so that the percentage of agriculturists is less than in most Districts. About two-thirds of the people, nevertheless, live by the land.

Christian missions.

Of the total Christian population (1901) of 159,213 as many as 158,809 were natives of India. These belong in about equal numbers to the Roman Catholic Church and the various Protestant denominations. Christian missions have existed in Tinnevelly for upwards of three centuries. The history of the Roman Catholic Church in the District dates from 1532, when Michael Vaz, afterwards Archbishop of Goa, with a Portuguese force assisted the Paravans (fishermen) along the coast of Tinnevelly against the Musalmāns, and subsequently baptized almost the entire caste, or about 20,000 souls. In 1542 St. Francis Xavier commenced his labours among these converts. Not much is known of the subsequent history of the mission till about 1710, which is the probable date of the commencement of the labours of Father Beschi, the celebrated Tamil scholar and author of the religious epic *Tembāvani*. Tinnevelly was always attached to the famous Madura Mission, and much progress was made until the suppression of the Society of Jesus in 1773 by Pope Clement XIV, when matters languished and were only again revived in 1838 under French Jesuits. Tuticorin is the largest centre of the mission, containing three fine churches and many thousands of Christians. The mission has two high schools and more than 100 village schools, besides three convents of Indian nuns and three large orphanages.

Protestant missions in Tinnevelly began with the visit of the famous Swartz to Pālamcottah in 1780. The congregation in those early days consisted of only 39 persons. In 1797 began the movement towards Christianity among the Shānāns, which is going on at the present day, and which has done much to raise the members of that caste in many ways. At present about 76,000 Christians are connected with the three missions of the Church of England, the Society for the Propagation of the Gospel, and the Church Missionary Society. Including some 15 European ladies, about 35 missionaries are working for these bodies. They maintain 750 village schools with more than 25,000 pupils. They also keep up a second-grade college for boys and another (the Sarah Tucker College) for girls, four high schools for boys and two for girls, four normal schools, an art industrial school, and two schools for the blind and the deaf. Eight hospitals are maintained by them for the treat ment of the sick of all classes.

Broadly speaking, the northern half of the District consists of black loam, with a strip of red soil along the foot of the hills south of Srīvilliputtūr; and the southern half consists of red loam or sand, with a strip of black loam in the valley of the Tāmbraparni. The black cotton soil plain in the north is a deep deposit, overlying a substratum of rock. There is but little irrigation in it, except in parts of Srīvilliputtūr. The black soils of the valley of the Tāmbraparni overlie a stiff yellow clay or marl which effectually prevents soakage, and which, keeping the water, vegetable matter, and manure in suspension near the surface, is no doubt the cause of the high fertility of that valley. Much of the high-lying red soil is poor, but in the hollows and along the course of the streams the ground is more fertile. In the south-east stretches a tract of country about 40 miles in length known as the 'palmyra forest,' where the soil is a deep red loam with a surface of sand. In a few well-protected flats the sand merely covers the subsoil, but in the open country it is several feet deep, and in some places blown up into hills 20 feet high. Even where the sand is deepest, the underlying loam, which is present everywhere, causes palmyra palms to flourish in hundreds of thousands. General agricultural conditions.

The prevailing land tenure in the District is *ryotwāri*, but there are also a number of *zamīndāris*. The total area is 5,389 square miles; detailed agricultural particulars for the *zamīndāris*, however, are not on record, and the area for which accounts are kept is only 3,985 square miles. Statistics of this area for 1903-4 are appended, in square miles:— Chief agricultural statistics and principal crops.

Tāluk.	Area shown in accounts.	Forests.	Cultivable waste.	Cultivated.	Irrigated.
Sāttūr	360	..	9	314	22
Srīvilliputtūr	531	73	31	307	80
Tinnevelly	318	8	6	245	55
Sankaranayinārkovil	464	42	4	298	50
Ottappidāram	373	6	7	314	18
Srīvaikuntam	532	32	10	392	76
Ambāsamudram	473	145	1	200	54
Tenkāsi	207	43	2	141	39
Nānguneri	727	88	11	473	68
District total	3,985	437	81	2,684	462

The staple food-grains are rice, *cholam*, *cambu*, and *rāgi*. Rice is cultivated on 467 square miles, or 22 per cent. of the area cropped; *cambu* comes next, being raised on 195 square

miles; while *cholam* and *rāgi* occupy 134 and 71 square miles respectively. Rice is grown on only a comparatively small area in the north-eastern *tāluks* of Sāttūr and Ottappidāram. *Cambu* is rarely grown in Ambāsamudram and not often in Tenkāsi, but elsewhere its cultivation is general and in Sāttūr and Ottappidāram widespread. *Cholam* and *rāgi* are for the most part grown in Sankaranayinārkovil, Nānguneri, and Srīvilliputtūr. Of the pulses, which are found mainly in the southern and south-western *tāluks*, horse-gram is the most important. Nānguneri contributes most largely to the area under this class of grain. Cotton is the principal industrial crop, being raised on 365 square miles in 1903-4, and Tinnevelly is one of the leading cotton-growing areas in the Presidency. Senna, for which the District was once famous, is still cultivated in the Tinnevelly *tāluk*. Gingelly is of importance in all the *tāluks* except Sāttūr and Ottappidāram. The cultivation of the palmyra palm and the gathering and preparation of its products, especially toddy, form one of the most important industries in the District. Thousands of people are entirely dependent on this tree for their livelihood.

Improvements in agricultural practice.

The ryots of the District are generally energetic and industrious, those in the northern *tāluks*, owing probably to the less favourable conditions prevailing there, being more so than their brethren in the south. The advantages of good manure, rotation of crops, &c., are well understood; but no attempt has been made to depart from the old ways, either by introducing new and improved implements or by raising other than the usual staples. An experimental farm has recently been started at Koilpatti, in the centre of the northern half of the District, to attempt to popularize the cultivation of better varieties of 'dry' grains by improved methods, but it is too early yet to say how far it will induce the people to move out of the beaten track. The ryots are very slow in taking advantage of the provisions of the Land Improvement Loans Act, only Rs. 29,000 having been advanced under it during the sixteen years ending 1904. Well-sinking is the only work for which loans are sought.

Cattle, ponies, and sheep.

There is little or no systematic cattle-breeding in the District. The usual nondescript animals kept by the ryots are allowed to multiply without restriction or selection. Large cattle-fairs are held in various parts of the District, notably at Sivalaperi, Kanniseri, Kalugumalai, and Muttalapuram. The animals raised in Rājapālaiyam and Sivagiri are comparatively superior, owing, probably, to the good pasture available at the

foot of the adjoining hills. Ponies of small size are bred in the eastern parts of the Srīvaikuntam *tāluk* for drawing the *jatkas*, or springed hackney carriages, which are used by the natives all over the District. There are no noteworthy breeds of sheep or goats.

Of the area cultivated in 1903-4 only 462 square miles were irrigated from all sources. Most of this (267 square miles) was watered from about 2,300 tanks (artificial reservoirs), and a considerable portion (120 square miles) from 52,000 wells. Nearly all the remainder was supplied from Government canals, chiefly those which take off from the Tāmbraparni. These irrigate the main portion of the 'wet' land in the Ambāsamudram, Tinnevelly, and Srīvaikuntam *tāluks*, and are referred to in the separate article on that river. The Tēnkasi *tāluk* and parts of Tinnevelly are watered from the Chittār. Nānguneri is irrigated mainly from tanks, some of which are very large, supplied by streams from the hills. The north-western *tāluks* of Sankaranayinārkovil and Srīvilliputtūr depend mainly on the north-east monsoon; and in them irrigation is almost entirely from tanks fed by jungle streams, the supply in which is generally precarious except in favourable years. The black cotton soil *tāluks* of Sāttūr and Ottappidārum contain very little 'wet' cultivation. In the sandy portions of Srīvaikuntam and Nānguneri water can be easily obtained by sinking shallow holes in the ground, but well-sinking in the black cotton soil is a costly matter. Irrigation.

The only real forests in Tinnevelly are those which clothe the Ghāts on the western border of the District. The approximate area of these is about 520 square miles, of which more than two-thirds is Government 'reserved' forest, while the rest belongs to the *zamīndārs* of Singampatti, Settūr, and Sivagiri. Small timber of good quality, such as teak, *vengai* (*Pterocarpus Marsupium*), &c., is found on the sides of the hills. Owing to their value in protecting the head-waters of the rivers and streams, the evergreen forests are very lightly worked. Forests.

Early in the last century the attention of the East India Company was attracted to the slopes of the Ghāts as affording suitable sites for the growth of cinnamon, cloves, and other tropical products of value, and accordingly in 1802 a large number of such plants were put down. These were managed directly by the Company itself for some time, but were ultimately parcelled out among private owners. Coffee-planting has been tried for several years on the Tenkāsi and Nānguneri hills, but has not met with success and the estates are no longer

maintained. Oranges, pumplemosses (pomeloes), and mangosteens grow on the Kuttālam hills. An interesting experiment is being carried out in the Srīvaikuntam *tāluk*, where an area of nearly 22 miles of shifting sand (*teri*) is being gradually reclaimed by the planting of palmyra palms with under-planting of *viru vettai* (*Dalbergia sympathetica*).

Minerals.

No minerals of value have been found in the District. Tradition speaks of copper being washed down by the Tāmbraparni river; this probably refers to the great quantities of magnetic ironsand which are brought down from the mountains, but no iron manufacture is carried on, nor have any traces of the existence of such an industry in former days been met with. Small garnets are found on the sea-shore near Cape Comorin. Many fine granitoids exist to the south of Pālamcottah. Granite, limestone, and sandstone are largely quarried for commercial purposes. The fine cream-coloured calcareous sandstone quarried at Panampārai in the Srīvaikuntam *tāluk* was used in constructing the churches at Mengnānapuram and Mudalūr, as well as the Hindu temple at Tiruchendūr on the coast. A kind of rock-coral found near Tuticorin is largely used in that town for rough building purposes.

Arts and manufactures.

Cotton-spinning and weaving have long been the leading industries in Tinnevelly. In the early years of last century little raw cotton was exported, but a large quantity was made into cloth in the looms of the District. This local industry has now greatly declined, much of the cotton being exported raw to various parts of the world. A considerable portion is, however, spun in the mills at Tuticorin, Koilpatti, and Pāpanāsam for local consumption as well as for export. At Vīravanallūr and Kallidaikurichi, in the Ambāsamudram *tāluk*, there is a thriving weaving industry, most of the *mundus*, the national dress in Travancore, sold in that State being manufactured at these two places. A kind of coarse towelling is made at Srīvilliputtūr and the adjoining villages. Melapālaiyam, a suburb of Pālamcottah chiefly inhabited by Labbais, is noted for its small cotton carpets, which command a large sale locally.

At Mannārkovil and Vāgaikulam near Ambāsamudram there is a flourishing brass and bell-metal industry. Reed mats of a peculiarly fine texture are made at Pattamadai near Sermādevi, but the industry is in the hands of a few poor Musalmān families and shows no signs of improvement. Good hand-made lace of European patterns is manufactured in some of the mission stations. The District has earned a name for the superior make and finish of its bullock-carts.

A large proportion of the population of Tinnevelly subsist by industries connected with the palmyra palm, such as drawing toddy from the tree, boiling this down into jaggery (coarse sugar), making mats from the leaves or fibre, and so on. The palmyra industry is in fact the most important in the District, and employs a much larger number of persons than the crafts connected with cotton, though the actual money value of the cotton goods turned out may be greater than that of the produce of the palmyra.

There are a large number of steam cotton-cleaning and pressing factories in the District, situated at Tuticorin on the coast, at Pāpanāsam, and at Sāttūr, Virudupatti, and Koilpatti in the centre of the cotton-growing area. In 1903 the total number of these factories was 16, and they employed more than 1,000 hands. Salt takes the next place. There are ten salt factories in Tinnevelly (those at Tuticorin, Arumuganeri, Kāyalpatnam, and Kulasekarapatnam being the most important), with an out-turn (in 1903) of about 64,000 tons of salt, which brought in a duty to Government of nearly 35 lakhs. On the coast are also several fish-curing yards under Government supervision. The immense number of palmyra palms in the District has led to the establishment of three sugar refineries (two in Tinnevelly and one at Alvār Tirunagari) under native management. Owing to financial difficulties, however, these are not systematically worked at present.

Commerce.

The chief exports from Tinnevelly are cotton, jaggery, chillies, tobacco, palmyra-fibre, salt, dried salt fish, and cattle; and the principal imports are cotton-twist and yarn, European piece-goods, and kerosene oil. There are three recognized ports, Tuticorin, Kulasekarapatnam, and Kāyalpatnam; but the first is the only one which is important. Its trade is noticed in the separate article on that town. There is a considerable export of dried salt fish from the coast to Rangoon, Madras, and Ceylon. The pearl and chank (*Turbinella rapa*) fisheries in the Gulf of Manaar are Government monopolies, but the profit is always doubtful and uncertain. Tinnevelly was once celebrated for its trade in senna. This has now almost died out, as Egyptian senna is considered better and is less adulterated. A considerable volume of trade, chiefly rice from the Tāmbraparni valley, passes over the trunk road leading from Tinnevelly to Trivandrum. There are two European exchange banks at Tuticorin, and two similar institutions under native management at Tinnevelly. Much of the distribution of the imports and the collection of merchandise for

export is done at weekly markets. Some of these are under the control of the local boards, and in 1903-4 the fees collected at them brought in an income of Rs. 7,500. The trade at the seaports is largely in the hands of the Labbais, but Tuticorin contains the agencies of several European firms.

Railways and roads. The South Indian Railway (metre gauge) enters the District from the north near Virudupatti, and runs south in an almost straight line to Maniyāchi through Sāttūr and Koilpatti. From Maniyāchi it turns east to Tuticorin on the coast, thus completing through communication between Madras city and the chief southern port of the Presidency. From the same place a railway branches off to Tinnevelly, and on to Shencottah on the eastern frontier of Travancore territory, through the fertile *tāluks* of Ambāsamudram and Tenkāsi. The portion of this last between Tinnevelly and Shencottah was opened in 1903, and has been extended to Quilon on the west coast through the gap in the Western Ghāts near Kuttālam. The District board has also recently resolved to levy a cess under Act V of 1884 for the construction of another much-needed line, on the metre gauge, from Tinnevelly to Tiruchendūr, a famous Saivite shrine on the coast.

The local boards maintain 831 miles of metalled and 100 miles of unmetalled roads. There are avenues of trees along 889 miles of them. The centre upon which all the main lines of communication converge is Tinnevelly town. The trunk road from Tinnevelly to Madura has lost much of its importance since the opening in 1876 of the South Indian Railway, which runs nearly in the same direction. Another important line of communication is the road from Tinnevelly to Nāgercoil in South Travancore via Nānguneri. Most of the trade between Tinnevelly and Travancore used to be carried over this route before the recent opening of the railway to Quilon.

Famine. The District generally is not liable to serious droughts, but the northern *tāluks* and Nānguneri are affected in years of scanty rainfall. Tinnevelly suffered somewhat in the great famine of 1876-8, but the distress was not as severe as in other Districts. Relief-works were started in December, 1876, but they were discontinued in May, 1877, and gratuitous relief was given for only a short period. The highest number relieved in any one month was only 23,000. The distress, however, necessitated the grant of remissions of revenue amounting to 8½ lakhs. Since then the District has suffered slightly from deficient rainfall in several years. In 1891-2 remission of the assessment on unirrigated land to the extent

of nearly Rs. 66,000 and on 'wet' land of over 4 lakhs was granted, and about 875 people on an average were employed daily on relief-works from March to August, 1891. The recent opening of the Quilon branch of the South Indian Railway, which traverses the whole length of the Ambāsamudram and Tenkāsi *tāluks*, touching all the important towns and centres of trade, will in future facilitate the collection and distribution of grain over all parts of the District.

District subdivisions and staff.

There are four subdivisions in the District, all of which, except the head-quarters charge comprising the *tāluks* of Tinnevelly and Sankaranayinārkovil, are at present managed by officers of the Indian Civil Service. The Tuticorin subdivision comprises the two large *tāluks* of Ottappidāram and Srīvaikuntam. The *tāluks* of Nānguneri, Ambāsamudram, and Tenkāsi, lying at the foot of the Ghāts, form the Sermādevi subdivision. The Sāttūr subdivision, formerly under a Deputy-Collector but recently placed in charge of a member of the Indian Civil Service, includes the two northern *tāluks* of Sāttūr and Srīvilliputtūr. A *tahsīldār* is posted at the head-quarters of each *tāluk* and a stationary sub-magistrate also. In addition, there are deputy-*tahsīldār* magistrates at Pālamcottah, Vilātikulam, Tuticorin, Rādhāpuram, Varttirāyiruppu, and Virudupatti. Pālamcottah is the head-quarters of the District Judge, District Superintendent of police, District Surgeon, Executive Engineer and District Forest officer, and of the Bishop of Tinnevelly.

Civil justice and crime.

Civil justice is administered by a District Judge, two Sub-Judges—one at the District head-quarters and the other at Tuticorin—and seven District Munsifs, two of whom are stationed at Tinnevelly and the other five at Srīvilliputtūr, Sāttūr, Tuticorin, Srīvaikuntam, and Ambāsamudram respectively. There are in addition nearly 420 village courts for the disposal of petty suits under Madras Act I of 1889. The District is one of the most litigious in the Presidency, contributing nearly 7 per cent. of the total number of suits annually filed.

Besides the Court of Session, the Additional Sub-Judge at Tuticorin is also authorized to try criminal cases as Assistant Sessions Judge. The District contributes about 5 per cent. of the total number of criminal cases in the Presidency, and has an unenviable reputation for dacoity, robbery, and house-breaking. The followers of the *poligārs* (local chieftains) of the Maravan caste used, in the days before British rule, to live mainly by plunder, and the predatory spirit still survives in their descendants. *Kāval* fees, a relic of the old blackmail

levied by these chiefs, are still paid all over the District by villagers as the price of exemption from molestation by these people, except in a few villages which have been strong enough to make a stand against this extortion. A movement to throw off the system is spreading among the people, but experience proves that it is most difficult to eradicate. The antipathy which has long existed between the Maravans and the Shānāns, culminating in the unfortunate riots of 1899, has for long been a source of anxiety to the District officials. Special police forces have been temporarily stationed at the centres where disturbances are most likely to arise, and the preventive provisions of the Criminal Procedure Code have been systematically put into operation. Special schools have also been started in the more important centres of the Maravans, to disseminate education and the principles of honest living among this caste.

Land revenue administration.

No exact details are available regarding the land revenue system which prevailed in Tinnevelly under the Naik Rājās of Madura. It is usually supposed that they were content with one-sixth of the gross produce, but Wilks says that one-third was the usual proportion taken from 'dry' land. There is no doubt their assessments were light in comparison with those of the Musalmāns who succeeded them.

The Hindu government was subverted by the Musalmāns between 1736 and 1739. From 1739 to 1801, when the Company finally assumed control of the country, a succession of managers were deputed to administer the revenue of Tinnevelly. Of these fifteen were Musalmāns, nine were Hindus, and two were officers of the Company. From 1739 to 1770 the assessment was paid in kind, land watered by the Tāmbraparni or from never-failing watercourses being charged twice as much as fields irrigated from tanks. There were, however, additional cesses, collected in money, which varied from time to time. In 1770 the system of dividing the crop between the cultivator and the Government was introduced. The latter took 60 per cent. of the gross out-turn on 'wet' land, after first deducting some small cultivation expenses and money cesses. This share was reduced to 50 per cent. in 1780, and continued at that rate till 1800.

In 1801, when Mr. Lushington took charge of the District on behalf of the Company, he commenced operations with the measurement of all land, both 'wet' and 'dry,' and an attempt at the classification of the latter. Subsequent administration differed according as the land was 'wet' or 'dry.' In

the 'wet' villages the system of division of the crop was continued, the Government share being raised to 60 per cent. in 1803 and the other demands continuing as before. The evils of this system (which are described in detail in the Tinnevelly *District Manual*, pp. 71–2) led to the adoption, in 1808, of a three years' village lease, by which the villages were rented for fixed money payments to their inhabitants. The payments were calculated on the average collections of previous periods, with a deduction to compensate for the undue exactions of the officials of the Nawābs, and a system of monthly instalments was introduced by which the demand was distributed over the eight months between December and September. This village lease system was a failure owing to various causes, the chief being a fall in the price of grain, and was not continued. In 1813 decennial leases, based on much the same principles, were introduced into the irrigated villages of the Tāmbraparni valley, but villages which objected to it were allowed to revert to the system of division of the crop. By 1814, only 106 of the 1,177 villages in the valley remained under this latter system, the rest having accepted the decennial lease. In 1820 the Collector recommended a reduction of 12 per cent. in the rentals fixed for the decennial leases in the 'wet' villages. The alteration actually made was the introduction of the *olungu* system, which came into force in 1822 and lasted till 1859. This consisted in the payment to Government of an assumed or estimated share of the produce, the value of which was commuted at a standard price modified by the current prices of the day. It was advantageous to the ryots and eventually altogether displaced the system of division of crops. In 1859 the *mottamfaisal* system was introduced. This was a modification of the *olungu* method, the variations in the conversion rate according to current prices being abandoned, and a standard price adopted once for all as a permanent conversion rate. As prices soon after began to rise, while the fixed rate was low, this alteration was greatly in favour of the ryots and resulted in a rapid increase of cultivation.

The revenue history of 'dry' villages is different. During the time of the Nawābs the renters levied a lump annual assessment on them, which was distributed among the various cultivators by the chief ryots on a classification of the soils of the various holdings. In 1802 Mr. Lushington fixed the rates on these fields by taking the average collections of former years as his standard, and for some years his assessments underwent alternate reduction and enhancement. In 1808 they were

permanently reduced to rates which varied, according to the soil, from Rs. 2–5–0 to 10 annas per acre, and they remained the same, with a few unimportant alterations, till 1865.

The various experiments above described left the assessment of the land revenue payable by the individual ryot very much to the discretion of the chief inhabitants, and the results were frequently unsatisfactory. The Government accordingly at length resolved to resettle the land revenue on the *ryotwāri* principle. This resettlement was begun in 1865 and completed in 1878, and was ordered to continue in force for thirty years. It was preceded by a complete survey of all the land in the District; and, though this showed that the area in occupation was 7 per cent. in excess of that shown in the accounts, the assessment arrived at was ½ per cent. less than before. The average assessment per acre on 'dry' land is now R. 1 (maximum, Rs. 5; minimum, 3 annas), and on 'wet' land Rs. 6 (maximum, Rs. 12; minimum, Rs. 2). The period of this settlement has already expired, and a resurvey and resettlement was undertaken towards the close of 1904 in the Tinnevelly, Tenkāsi, and Ambāsamudram *tāluks*. The revenue from land and the total revenue of the District in recent years are given below, in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	32,45	29,50	34,89	36,18
Total revenue . .	38,76	40,58	53,15	58,53

Local boards.

Local affairs are managed by a District board composed of thirty-two members, and by the four *tāluk* boards of Tinnevelly, Tuticorin, Sermādevi, and Sāttūr, the areas under which are identical with the subdivisions of the same names. There are also 36 Unions established under Madras Act V of 1884, of which 22 have a population of more than 10,000 each. Next to Madura, Tinnevelly contains the largest number of such Unions in the Presidency. The income of all the local boards in 1903–4 was Rs. 5,43,000, of which Rs. 2,77,000 was contributed by the land cess and about Rs. 60,000 by tolls. The expenditure in the same year was Rs. 5,30,000, of which Rs. 2,60,000 was devoted to the construction and up-keep of roads and buildings, the other chief items being education, sanitation, and vaccination.

Police and jails.

Police affairs, as in other Districts, are managed by a District Superintendent. He is stationed at Pālamcottah, and is helped by an Assistant Superintendent at Tuticorin and a Special

Assistant at Sivakāsi, who is in charge of the special temporary forces mentioned below and also does general police work. There are 85 police stations and 1,087 constables under 19 inspectors, besides 1,182 rural police under the control of the *tahsīldārs*. Special temporary forces have been stationed at Sivakāsi, Koilpatti, Sūrandai, and Marugalkurichi, in consequence of the Shānān riots already referred to. The District jail is at Pālamcottah, and there are 15 subsidiary jails, with accommodation for 255 prisoners.

Education.

In the matter of education, Tinnevelly (according to the Census of 1901) ranks fifth among the Districts of the Presidency, 10 per cent. of the population (19 per cent. of males and 1·5 per cent. of females) being able to read and write. Education is most advanced in the *tāluks* of Tenkāsi, Ambāsamudram, and Tinnevelly along the valley of the Tāmbraparni, and most backward in the cotton soil portions of the District. The total number of pupils under instruction in 1880–1 was 34,863; in 1890–1, 53,130; in 1900–1, 66,283; and in 1903–4, 73,726, of whom 10,819 were girls. On March 31, 1904, there were 1,297 primary, 75 secondary, and 11 special schools, besides 3 colleges. There were in addition 538 private schools, with 13,196 male and 544 female scholars. Of the 1,386 educational institutions classed as public, 2 were managed by the Educational department, 58 by local boards, and 7 by municipalities, 1,052 were aided from public funds, and 267 were unaided. Of the male population of school-going age 29 per cent. were in the primary stage of instruction, and of the female population of the same age about 6 per cent. Among Musalmāns the corresponding percentages were 90 and 8. About 150 schools are maintained for Panchamas or depressed castes, with 5,600 pupils. Chiefly owing to missionary influence, female education is comparatively advanced in Tinnevelly, there being 1,900 girls in secondary and nearly 8,200 in primary schools. There were also nine girls reading in the collegiate course at the Sarah Tucker College at Pālamcottah. The great majority of the girls belong to the native Christian community. The two Arts colleges for males are in Tinnevelly town. About Rs. 4,65,000 was spent on education in 1903–4, of which Rs. 1,30,000 was derived from fees. Of the total, Rs. 2,60,000 was devoted to primary education.

Hospitals and dispensaries.

There are eleven hospitals and twelve dispensaries in the District. Seven of the former and nine of the latter are maintained by the local boards, and the remainder (four hospitals in the four municipal towns and three dispensaries,

two in Tinnevelly town and one in Pālamcottah) from municipal funds. Besides these, the various mission agencies have established four hospitals and three dispensaries. These institutions have accommodation for 109 male and 73 female in-patients. A Local fund hospital for women and children has recently been built at Pālamcottah. About 339,000 persons, of whom 2,500 were in-patients, were treated in the District in 1903, and 10,000 operations were performed. The total cost of all the institutions was Rs. 61,000, which was mainly met from local and municipal revenues, and to a small extent from the income of endowments, and (in the case of mission hospitals) from private subscriptions.

Vaccination.

Vaccination has always been fairly satisfactorily conducted in Tinnevelly, and in 1903–4 a large number of operations were performed at the comparatively low cost for each successful case of 3 annas 1 pie. The proportion of successful operations per mille of the population was 39·4, which again was the highest rate in the Presidency except in the Nīlgiris. Vaccination is compulsory in the municipalities and in 19 out of the 36 Unions.

[Further particulars of Tinnevelly District will be found in the *District Manual* by A. J. Stuart (1879), and in Bishop Caldwell's *History of Tinnevelly* (1881).]

Sāttūr Subdivision.—Subdivision of Tinnevelly District, Madras, consisting of the *tāluks* of SĀTTŪR and SRĪVILLIPUTTŪR.

Sāttūr Tāluk.—Northernmost *tāluk* of Tinnevelly District, Madras, lying between 9° 2′ and 9° 43′ N. and 77° 43′ and 78° 9′ E., with an area of 560 square miles. The *tāluk* is comparatively sparsely peopled, the total population in 1901 being 186,694, compared with 184,329 in 1891, or a little more than 330 persons per square mile. It contains three towns, VIRUDUPATTI (population, 16,837), SIVAKĀSI (13,021), and SĀTTŪR (7,870), the head-quarters; and 206 villages. The demand for land revenue and cesses amounted in 1903–4 to Rs. 2,68,000. The northern and eastern villages are chiefly black cotton soil, while the southern and south-western portions consist of red loam and sand. The only river is the Vaippār, which is not of much use for irrigation. Cotton is the staple product, but *cambu* is also largely grown. There is a good deal of careful cultivation of garden crops with well-irrigation, but the area of 'wet' lands is small. The *tāluk* includes a considerable number of *zamīndāri* and *inām* villages, none of which, however, is very large.

Srīvilliputtūr Tāluk.—North-western *tāluk* of Tinnevelly District, Madras, lying between 9° 17′ and 9° 42′ N. and 77° 20′ and 77° 51′ E., with an area of 585 square miles. The population in 1901 was 205,745, compared with 190,517 in 1891, or a little more than 350 persons per square mile. The *tāluk* contains four towns, SRĪVILLIPUTTŪR (population, 26,382), the head-quarters, RĀJAPĀLAIYAM (25,360), SETTŪR (14,328), and VARTTIRĀYIRUPPU (13,131); and 94 villages. The demand for land revenue and cesses amounted in 1903–4 to Rs. 4,11,000. The soils in rather more than half, including the villages lying to the west, belong to the red clay or loam and sand series, while the easterly villages form a portion of the cotton soil plain. The country to the west undulates considerably, owing to the numerous streams which descend from the Western Ghāts and supply a large number of tanks.

Tinnevelly Subdivision. — Subdivision of Tinnevelly District, Madras, comprising the *tāluks* of TINNEVELLY and SANKARANAYINĀRKOVIL.

Tinnevelly Tāluk.—*Tāluk* in the centre of the District of the same name, Madras, lying between 8° 36′ and 8° 57′ N. and 77° 34′ and 77° 51′ E., with an area of 328 square miles. The population in 1901 was 194,647, compared with 184,728 in 1891. The demand for land revenue and cesses amounted in 1903–4 to Rs. 3,81,000. The *tāluk* is the most densely populated in the District, having nearly 600 persons per square mile. It contains 123 villages, besides the two municipal towns of TINNEVELLY (population, 40,469), the head-quarters, and PĀLAMCOTTAH (39,545), situated on opposite banks of the river Tāmbraparni. It consists, as respects soil and general features, of two distinct portions: namely, the valleys of the TĀMBRAPARNI and Chittār, and the high 'dry' land which lies between these rivers and on either side of them. Its 'wet' land is supplied by means of five channels, the Kodagan, Pālayan, Tinnevelly, Marudūr East and Marudūr West channels, leading from dams across the former of these streams. About fifteen other channels are supplied by the Chittār. The soil of the 'dry' land is of the red and sandy series, and generally poor.

Sankaranayinārkovil Tāluk.—*Tāluk* in Tinnevelly District, Madras, lying between 8° 55′ and 9° 25′ N. and 77° 14′ and 77° 52′ E., at the foot of the Western Ghāts, with an area of 717 square miles. The population in 1901 was 232,980, compared with 213,799 in 1891, or 325 persons per square mile. It contains two towns, SIVAGIRI (population, 18,150)

and SANKARANAYINĀRKOVIL (16,775), the head-quarters; and 123 villages. The demand for land revenue and cesses amounted in 1903-4 to Rs. 3,02,000. There are a considerable number of *zamīndāris* in the *tāluk*, the largest of which is the SIVAGIRI ESTATE. It contains soils of both the red and black classes, and depends for its cultivation chiefly on the north-east monsoon, the rainfall during the earlier or south-west monsoon being trifling and uncertain.

Sivagiri Estate.—A *zamīndāri* situated mainly in the north-west of the Sankaranayinārkovil *tāluk* of Tinnevelly District, Madras, with an area of nearly 125 square miles, excluding 30 square miles of forest on the slopes of the Western Ghāts. Population (1901), about 58,000. It is one of the ancient estates of the Presidency, and pays a *peshkash* of Rs. 55,000 and land cess amounting to Rs. 5,000. About 50,000 acres are under cultivation, of which a little over a fourth is 'wet,' the remainder being 'dry.' The income of the estate is about Rs. 1,84,000, and at present, owing to the minority of the proprietor, it is managed by the Court of Wards. Sivagiri is the only town of importance.

Tuticorin Subdivision.—Subdivision of Tinnevelly District, Madras, consisting of the OTTAPPIDĀRAM and SRĪVAIKUNTAM *tāluks*.

Ottappidāram.—North-east *tāluk* of Tinnevelly District, Madras, lying between 8° 41′ and 9° 22′ N. and 77° 41′ and 78° 23′ E., with an area of 1,072 square miles. The population in 1901 was 358,568, compared with 342,145 in 1891; the density is nearly 335 persons per square mile. The *tāluk* contains two towns, TUTICORIN (population, 28,048) and ETTAIYĀPURAM (8,788), and 394 villages. The demand for land revenue and cesses amounted in 1903-4 to Rs. 3,45,000. By far the largest portion is *zamīndāri* land, the estates comprised in it including ETTAIYĀPURAM, the biggest in the District. It is almost entirely a wide plain of black cotton soil, though to the west and south a considerable area is red sand and loam. Rainfall is very scanty and there is little 'wet' cultivation, but cotton is grown very largely and sent to Tuticorin for export.

Ettaiyāpuram Estate.—A *zamīndāri* in Tinnevelly District, Madras, situated in the Ottappidāram *tāluk* in the north-east of the District. Its area is nearly 570 square miles, and it comprises 374 villages with a population (1901) of 154,000. The principal castes are all Telugus by race. The ancestors of the *zamīndār* originally came from CHANDRAGIRI in North

Arcot District. Kumāramuttu Naik, the fourteenth in descent, migrated to Madura owing to the disturbances in the north consequent on the invasion of Alā-ud-dīn Khiljī. The exile was kindly received by the Pāndyan king, who granted him extensive lands. Later on Kumāramuttu was sent down to quell disturbances in Tinnevelly. He accordingly proceeded to Sāttūr and built a fort there, the remains of which can be seen at the present day on the south bank of the Sāttūr river. The present town of Ettaiyāpuram (population, 8,788), the head-quarters of the *zamīndāri*, is said to have been founded in 1567. Muttu Jaga Vīra Rāma Naik, the thirty-first *zamīndār*, had a standing army of 6,000 men and rendered help to the British Government during the Poligār Wars of 1799–1801, receiving, in recognition of his services, four out of the six divisions into which the forfeited estates of the vanquished *poligārs* were divided. The estate consists mainly of black cotton soil. Out of a cultivable area of 6,000 acres of 'wet,' and 250,000 acres of 'dry' land, nearly 5,000 acres and 240,000 acres respectively are under cultivation, the 'wet' land being watered by more than 90 tanks. The rainfall averages 33 inches. About 10,000 acres are set aside as game preserves, in which antelope, hares, and partridges abound. Jaggery (coarse sugar) is made from the palmyra palm in large quantities, and half the cotton grown in Tinnevelly District comes from the estate.

The estate is held under permanent *zamīndāri* tenure, and yields an income of more than $3\frac{1}{4}$ lakhs, while the annual *peshkash*, or permanent assessment paid to Government, amounts to Rs. 1,16,000. About 100 miles of road are maintained by the estate, and it contributes Rs. 1,000 annually towards the up-keep of two Local fund hospitals at Ettaiyāpuram and Nāgalāpuram. There is a high school for boys and a girls' school at Ettaiyāpuram town.

Srīvaikuntam Tāluk.—South-eastern *tāluk* of Tinnevelly District, Madras, lying between 8° 17′ and 8° 48′ N. and 77° 48′ and 78° 10′ E., with an area of 542 square miles. The population rose from 287,603 in 1891 to 321,534 in 1901, the density being nearly 600 persons per square mile. Srīvaikuntam is second only to the Tinnevelly *tāluk* in the literacy of its inhabitants, and it has the largest Christian community (over 54,000) in the District. It contains an unusually large number of interesting places, chief of which are TIRUCHENDŪR (population, 26,056), a famous Saivite shrine on the coast; KULASEKARAPATNAM (19,898) and KĀYALPATNAM (11,746), two

decayed ports with a large population of Musalmān Labbais; SRĪVAIKUNTAM (10,550), the head-quarters; ALVĀR TIRUNAGARI (6,630), which contains two noted Vaishnavite temples; the two smaller towns of SĀTTĀNKULAM (6,953) and SIRUTTONDANALLŪR (6,099); NAZARETH, a centre of native Christians; KĀYAL and KOLKAI, celebrated as the early capitals of the Pāndyan dynasty; and ADICHANALLŪR, the most interesting prehistoric burial-place in Southern India. The number of villages is 134. The demand for land revenue and cesses amounted in 1903-4 to Rs. 6,30,000. The soils consist of black cotton soil in the north; red sand and red clay to the south and west; the *teri*, or blown sand, founded upon the sandstone and claystone ridges parallel to the coast; and, lastly, the rich alluvial belt of the TĀMBRAPARNI Valley. Four main channels, two on either bank of the river leading from the Marudūr and Srīvaikuntam dams, irrigate the *tāluk* directly, besides supplying a large series of tanks. To the south the country is covered with thousands of palmyra palms.

Sermādevi Subdivision.—Subdivision of Tinnevelly District, Madras, consisting of the AMBĀSAMUDRAM, TENKĀSI, and NĀNGUNERI *tāluks*.

Ambāsamudram Tāluk.—*Tāluk* in Tinnevelly District, Madras, lying between 8° 29′ and 8° 57′ N. and 77° 12′ and 77° 40′ E., at the foot of the Western Ghāts, with an area of 481 square miles. The population in 1901 was 182,481, compared with 183,616 in 1891, the density being 379 persons per square mile. The apparent decrease is accounted for by the presence of a large number of labourers from outside at the time of the Census of 1891. The demand for land revenue and cesses amounted in 1903-4 to Rs. 4,74,000. The *tāluk* is mainly composed of the valleys of the TĀMBRAPARNI and its affluents, which contain rich areas of rice cultivation yielding two unfailing crops every year. The irrigation system, which depends upon numerous dams across the Tāmbraparni, is ancient and very complete. Excepting the river valleys, however, the soil is rocky and poor. There are two *zamīndāris*, Singampatti and Urkād, both of which are well situated for irrigation, the former from the Manimuttār and the latter from the Tāmbraparni. The valley of this latter river is studded with numerous towns and villages, containing a large population of wealthy Brāhman landowners, to whose enterprise and intelligence the prosperity of the *tāluk* is mainly due. AMBĀSAMUDRAM (population, 12,869) is the head-quarters; but VĪRAVANALLŪR (17,327), KALLIDAIKURICHI (14,913), and SERMĀDEVI (13,474) are larger places. PĀPANĀSAM, a famous

place of pilgrimage, is situated within it, and there are 84 other villages.

Tenkāsi Tāluk.—*Tāluk* in Tinnevelly District, Madras, lying between 8° 49′ and 9° 9′ N. and 77° 13′ and 77° 38′ E., at the foot of the Western Ghāts, with an area of 374 square miles. The population in 1901 was 174,430, compared with 154,940 in 1891, the density being 466 persons per square mile. It contains three towns, TENKĀSI (population, 18,128), the head-quarters, KADAIYANALLŪR (13,939), and SŪRANDAI (11,810); and 92 villages. In physical features it resembles on a smaller scale the neighbouring *tāluk* of Ambāsamudram. It is well watered by the Chittār, and the affluents of this river are crossed by numerous anicuts, or dams, feeding irrigation channels and tanks. The demand for land revenue and cesses amounted in 1903–4 to Rs. 2,87,000.

Nānguneri Taluk.—Southern *tāluk* of Tinnevelly District, Madras, lying between 8° 9′ and 8° 38′ N. and 77° 24′ and 77° 55′ E., with an area of 730 square miles. Nānguneri is the least thickly peopled *tāluk* in Tinnevelly, having a population of 202,528 in 1901, compared with 174,418 in 1891, the density being only 280 persons per square mile. But though this is much below the average in Tinnevelly, it is above that for the Presidency as a whole. There are only two towns, NĀNGUNERI (population, 6,580), the head-quarters, and VADAKKU VALLIYŪR (6,903), both situated on the trunk road between Tinnevelly and Trivandrum. The number of villages is 231. The demand for land revenue and cesses amounted in 1903–4 to Rs. 3,65,000. The *tāluk* is composed of red clay, loams, and sands, excepting a strip parallel with the sea and extending some 3 to 10 miles inland, where white sand and *teri* (blown sand) tracts prevail. Palmyra palms abound throughout, and in the east and south are almost the sole means of support of the inhabitants. In the north-east and centre are numerous tanks, both rain-fed and supplied by mountain streams, and a very large number of wells are to be found in the south. The villages at the foot of the Western Ghāts, which form the western boundary of the *tāluk*, are well supplied during both monsoons with water from that range, which is more picturesque here than elsewhere in the District and is clothed with dense forest to the very top.

Adichanallūr.—Village in the Srīvaikuntam *tāluk* of Tinnevelly District, Madras, situated in 8° 38′ N. and 77° 50′ E., on the right bank of the Tāmbraparni river, 3 miles west of Srīvaikuntam and 15 miles from Pālamcottah. Excavations

conducted by Mr. Rea, the Superintendent of the Archaeological Survey, in 1899 and the following years, have shown that it is the most extensive and important prehistoric burial-place as yet discovered in Southern India. Hundreds of ancient sepulchral urns have been unearthed in a long piece of high ground on the south bank of the river, about 100 acres of which have been now marked off by Government and protected from molestation until the excavations shall have been completed. In this ground the urns are found at an average distance of only 6 feet apart, and at from 3 to 10 feet or more below the surface. In the centre, about 3 feet of the surface soil is composed of gravel with decomposed quartz rock below. The rock has been hollowed out for the urns, a separate cavity being prepared for each and a band of rock left between it and the next. The chambers thus made have preserved their contents in an almost perfect condition; and from those which have so far been opened, the number of which is only a small fraction of the whole, have been taken, besides the bones and skulls of the dead, more than 1,200 objects, including many unique and curious specimens of work in bronze and iron, pottery, and some pure gold ornaments. The iron articles found comprise large bracketed and small hanging lamps, swords, spears, knives, adzes, celts, hammers, rings, bangles, beam rods, tridents, tripods, axes, arrows, chisels, &c., &c. Those made of bronze include small cups, moulded and ornamented jars, flat bowls and platters, and some curious lamps. Some of the pottery vessels are of exquisite shape and moulding, with a fine glaze. These finds have been deposited in the Madras Museum. A tradition asserts that near this site was a most extensive town, and the deposits above described seem to support it. Mr. Rea thinks that the place might have been a Pāndyan town, as from many observations he has made this mode of urn-burial appears to have been that adopted by the Pallavas and Pāndyas. Further excavations are still (1906) going on at Adichanallūr, and they will probably eventually lead to more definite results.

Alvār Tirunagari.—Town in the Srīvaikuntam *tāluk* of Tinnevelly District, Madras, situated in 8° 37′ N. and 77° 57′ E., on the right bank of the Tāmbraparni river, 21 miles south-east of Tinnevelly town. Population (1901), 6,630. It derives its name from the fact that it was the birthplace of Nammālvār, one of the leading saints of the Vaishnavite sect, in whose honour a large temple has been built. A tree shown in the temple is said to be the identical one under which the saint sat and meditated. The annual festivals in February and May

attract large crowds from the adjoining Districts. A sugar refinery is working here. Local affairs are managed by a Union *panchāyat.*

Ambāsamudram Town.—Head-quarters of the *tāluk* of the same name in Tinnevelly District, Madras, situated in 8° 42′ N. and 77° 27′ E., on the left bank of the Tāmbraparni river, 20 miles above Tinnevelly town. Population (1901), 12,869. Local affairs are managed by a Union *panchāyat.* There is a high school, managed by a local committee.

Ettaiyāpuram Town.—Chief place in the *zamīndāri* of the same name in the Ottappidāram *tāluk* of Tinnevelly District, Madras, situated in 9° 9′ N. and 78° E., 10 miles from Koilpatti station on the South Indian Railway. Population (1901), 8,788. Local affairs are managed by a Union *panchāyat.* There is a hospital and a high school, and it also contains the residence of the *zamīndār.*

Kadaiyanallūr.—Town in the Tenkāsi *tāluk*, Tinnevelly District, Madras, situated in 9° 4′ N. and 77° 20′ E. The population in 1901 was 13,939, weavers forming a large proportion. Local affairs are managed by a Union *panchāyat.*

Kallidaikurichi.—Town in the Ambāsamudram *tāluk* of Tinnevelly District, Madras, situated in 8° 41′ N. and 77° 27′ E., on the Tāmbraparni river. It is a Union, with a population (1901) of 14,913. It contains a large number of Brāhmans, several of whom are engaged in a flourishing cloth trade with Travancore. Some of them are also bankers. The fields around the town are well watered and very valuable.

Kalugumalai (*kalugu*, 'an eagle,' and *malai*, 'a hill').—Village in the Ettaiyāpuram *zamīndāri* and the Ottappidāram *tāluk* of Tinnevelly District, Madras, situated in 9° 8′ N. and 77° 42′ E., 28 miles north of Tinnevelly town and 12 miles from Sankaranayinārkovil. Population (1901), 4,827. It contains a celebrated rock-cut temple dedicated to the god Subrahmanya, and many Jain sculptures and inscriptions. The temple is similar in style to the SEVEN PAGODAS in Chingleput District, and is thought to have been built in the tenth or eleventh century. An annual festival and cattle fair in February attract a large number of people from the southern Districts and even from Mysore.

Kāyal.—Village in the Srīvaikuntam *tāluk* of Tinnevelly District, Madras, situated in 8° 40′ N. and 78° 5′ E., near the sea, on the northern bank of the Tāmbraparni river. It was once a famous port, and was visited in 1292 by Marco Polo, who calls it 'a great and noble city,' and notices it at length

(Col. Yule's translation, vol. ii, p. 305). A similar glowing account of the place is given by two Persian historians quoted by Colonel Yule. Kāyal sprang into existence after KOLKAI, but the silt of the Tāmbraparni ruined both places as ports and has now turned them into inland villages. Relics of the ancient greatness of Kāyal are, however, still discoverable in the shape of broken tiles and remnants of pottery. There are also two old temples with inscriptions. An interesting and detailed account of the place will be found in Bishop Caldwell's *History of Tinnevelly*.

Kāyalpatnam.—A small port in the Srīvaikuntam *tāluk* of Tinnevelly District, Madras, situated in 8° 34′ N. and 78° 8′ E., a few miles to the south of the Tāmbraparni river and 18 miles south of Tuticorin; not to be confounded with Kāyal. It is a Union, with a population (1901) of 11,746. Its sea-borne trade, which is chiefly in rice and coco-nuts with Ceylon and timber and areca-nuts with Travancore, is carried on by the Musalmān tribe of Labbais. There is also some trade in palmyra-leaf boxes and jaggery (coarse sugar), and a large salt factory is at work.

Koilpatti.—A station on the South Indian Railway in the Sāttūr *tāluk* of Tinnevelly District, Madras, situated in 9° 10′ N. and 77° 52′ E. It is an *ināmm* village (that is, held on favourable tenure) and a Union, with a population (1901) of 3,415, and possesses a dry healthy climate. There is a cotton-spinning mill under native management, and a Government experimental farm has recently been opened.

Kolkai (*Korkhei, Kolchei, Kolchoi*).—Village in the *tāluk* of Srīvaikuntam, in Tinnevelly District, Madras, situated in 8° 40′ N. and 78° 5′ E., 12 miles east of Srīvaikuntam town. Population (1901), 2,518. Tradition asserts that it was the earliest seat of Dravidian civilization, and the spot where CHERA, CHOLA, and PĀNDYA, the legendary progenitors of the three famous South Indian dynasties, ruled in common before the two first founded kingdoms of their own in the west and north. It eventually became the capital of the Pāndyan line, and was known to the early European geographers as one of the most important trading marts in India. It is mentioned by the author of the *Periplus* (A.D. 80) as a celebrated place for pearl-fishing, and is also referred to by Ptolemy (A.D. 130). The sea gradually retired from Kolkai, owing to the deposit of the silt of the Tāmbraparni on the shore in front, and in consequence a new emporium (KĀYAL) arose between Kolkai and the sea. This in its turn met with a similar fate, and is

now a small village 5 miles inland. Further interesting particulars about Kolkai are given in Bishop Caldwell's *History of Tinnevelly*.

Kulasekarapatnam.—Town and seaport in the Srīvaikuntam *tāluk* of Tinnevelly District, Madras, situated in 8° 25′ N. and 78° 3′ E. It is a Union, with a population (1901) of 19,898. A small quantity of salt, of unusually excellent quality, is produced here. The principal exports are fibre, oils and oil-cake, jaggery (coarse sugar), and tobacco. The total value of the exports in 1903–4 was 3·8 lakhs, and of the imports 4·3 lakhs.

Kuttālam.—A famous waterfall and sanitarium in the Tenkāsi *tāluk* of Tinnevelly District, Madras, situated in 8° 56′ N. and 77° 16′ E., 36 miles by road from Tinnevelly and 3 from Tenkāsi. Population (1901), 1,197. Kuttālam receives the rain and cool breezes of the south-west monsoon through a gap in the Ghāts, and thus, though only 450 feet above sea-level, possesses the climate and flora of a much higher elevation. The scenery is extremely picturesque, and the falls of the Chittār are held sacred by Hindus. A beautifully situated temple near these falls is dedicated to Kuttālanāthaswāmi. Kuttālam has always been a favourite resort of the European officials of the District, and in recent years there has been a considerable influx of visitors from all parts of the Presidency during the season, which generally lasts from July to September. Several bungalows and rest-houses for natives are maintained, and it is connected by good roads with all parts of the District. The Mahārājā of Travancore and the British Resident in Travancore and Cochin have residences here.

Nānguneri Town.—Head-quarters of the *tāluk* of the same name in Tinnevelly District, Madras, situated in 8° 29′ N. and 77° 40′ E., on the trunk road from Tinnevelly to Trivandrum, 18 miles from the former. Population (1901), 6,580. It contains the *math*, or religious house, of the Vānamāmalai Jīr, the head-priest of a section of the Tengalai sub-sect of Vaishnavite Brāhmans. A richly endowed temple is under the control of this *math*. Marugalkurichi, near Nānguneri, is one of the chief centres of the Maravan caste in the District. A special police force is now stationed here, in consequence of the riots which took place between the Maravans and Shānāns in 1899. Local affairs are administered by a Union *panchāyat*.

Nazareth.—Village in the Srīvaikuntam *tāluk* of Tinnevelly District, Madras, situated in 8° 34′ N. and 77° 59′ E., 22 miles from Pālamcottah. Population (1901), 4,351, of whom 2,690

were Christians. As its name shows, Nazareth is a missionary village; and it contains a high school for girls, an art industrial school (one of the most prominent in the Madras Presidency), an orphan asylum, and a mission hospital. It is the head-quarters of a Christian mission, which numbers 12,000 adherents and includes 2,000 school children. Good hand-made lace is manufactured at the art school.

Pālamcottah (*Pālaiyamkottai*, 'barony-fort'). — Head-quarters of Tinnevelly District, Madras, situated in 8° 44′ N. and 77° 45′ E., in the Tinnevelly *tāluk*, on an open plain a mile from the Tāmbraparni river and 2½ miles from Tinnevelly town. Pālamcottah was fortified under the native rulers, and its defences were intact at the time when it passed into the hands of the British. It subsequently formed the base of their operations during the Poligār Wars. The fort was not dismantled until comparatively recently, when the garrison of one or more native regiments which had been stationed here ever since the British occupation was finally withdrawn. The population of the town in 1901 was 39,545, of whom 23,548 were Hindus, 13,052 (or a third of the total) Musalmāns, and the rest (2,945) Christians. The high proportion of Musalmāns is accounted for by the inclusion within municipal limits of the suburb of Melapālaiyam on the bank of the river, which is inhabited almost wholly by Labbais, engaged in trade, agriculture, and carpet-making. Pālamcottah was constituted a municipality in 1866. The income and expenditure during the ten years ending with 1902–3 averaged Rs. 31,000 and Rs. 30,800 respectively. In 1903–4 they were Rs. 48,400 and Rs. 47,000. Most of the income is derived from taxes on land and houses and from tolls. The town stands in an excellent situation and possesses a dry and healthy climate, but has no supply of water which can be depended upon throughout the year. Proposals are being made to remedy this defect, but no definite scheme has yet been formulated. Being the head-quarters of the District, Pālamcottah contains all the usual offices. It is also the chief centre of the Christian missions in Southern India, and possesses a large number of educational and other philanthropic institutions established by the various mission agencies. Of these the Sarah Tucker College for girls and the school for the deaf and dumb deserve special mention. There are also two high schools for boys, besides other secondary schools. It is the residence of the Bishop of Tinnevelly.

Pānjalamkurichi.—Village in the *tāluk* of Ottappidāram,

Tinnevelly District, Madras, situated in 8° 56′ N. and 78° 3′ E., 2 miles from Ottappidāram town. It was formerly the stronghold of Kattabomma Naik, a rebel *poligār* who gave the British much trouble at the end of the eighteenth century. The place was first taken by Colonel Fullarton in 1783. In 1799, during the first Poligār War, it was again captured by the British and the *poligār* was hanged. In 1801 it was once more a centre of disaffection, and was stormed after a most stubborn resistance. This contributed largely to the complete subjugation of the *poligārs* of the South. The fort was not only pulled down and levelled to the ground, but the very site was ploughed over and cultivated. Nothing now remains to mark the spot but a few traces of the mound erected as a breaching battery, and the enclosure in the neighbourhood containing the tombs of the officers and men of the British force who fell in the fight. A few more such tombs are also to be found near Ottappidāram.

Pāpanāsam (*Pāpa*, 'sin,' and *nāsam*, 'destruction').—A place of pilgrimage in the *tāluk* of Ambāsamudram, Tinnevelly District, Madras, situated in 8° 43′ N. and 77° 22′ E., 6 miles from Ambāsamudram town, at the foot of the Western Ghāts, near the point where the Tāmbraparni descends to the plain. The river debouches from the hills in a magnificent fall, which is regarded as very sacred and is annually visited by thousands of pilgrims. Pāpanāsam contains a large Saivite temple, and four or five *chattrams* and rest-houses. The fish in the river near the temple are supplied with food from the temple funds. A mile below the village is situated the cotton-spinning factory of the Tinnevelly Mills Company, which is worked by water-power, generated by means of a channel from the river, and affords employment to 530 hands. The company has a capital of 4 lakhs, and turns out annually about 2,500,000 lb. of yarn, valued at 9 lakhs.

Rājapālaiyam.—Town in the Srīvilliputtūr *tāluk* of Tinnevelly District, Madras, situated in 9° 27′ N. and 77° 33′ E., 8 miles from Srīvilliputtūr town. It is a Union, with a population (1901) of 25,360, of whom 24,095 are Hindus, 1,014 Musalmāns, and 251 Christians. It is mostly inhabited by Rāzus, a class of people who originally came from Vijayanagar and claim to be Rājputs. Their language is Telugu, and they have many peculiar customs. There is also a colony of blacksmiths who turn out good work, such as iron safes, vessels, &c. Most of the Rāzus live by agriculture, and they also rear cattle which are considered superior to the ordinary breeds.

Sankaranayinārkovil Town.—Head-quarters of the *tāluk* of the same name in Tinnevelly District, Madras, situated in 9° 10′ N. and 77° 32′ E. It is a Union, with a population (1901) of 16,775. A fine temple is dedicated to both Vishnu and Siva, a combination which is uncommon. A large cattle fair is held annually in August.

Sāttānkulam.—Town in the Srīvaikuntam *tāluk* of Tinnevelly District, Madras, situated in 8° 27′ N. and 77° 55′ E. It derives its importance from its situation on the border of the great palmyra forest in the south-east of the District. Jaggery (coarse sugar) goes from here to Pālamcottah in large quantities. It is a Union, with a population (1901) of 6,953, and is the head-quarters of a Roman Catholic mission which possesses a church and some schools. Two miles to the east is Mudalūr, one of the chief Christian villages in Tinnevelly District, with a fine Gothic church.

Sāttūr Town.—Head-quarters of the *tāluk* of the same name in Tinnevelly District, Madras, situated in 9° 22′ N. and 77° 55′ E., with a station on the South Indian Railway. Sāttūr is also the head-quarters of the officer in charge of the subdivision comprising the Sāttūr and Srīvilliputtūr *tāluks*. It is a Union, with a population (1901) of 7,870, and has a Local fund hospital. There are two cotton-pressing and ginning factories, which employ in the aggregate 200 hands.

Sermādevi.—Town in the Ambāsamudram *tāluk* of Tinnevelly District, Madras, situated in 8° 41′ N. and 77° 34′ E. It is a Union, with a population (1901) of 13,474. Sermādevi is the head-quarters of the divisional officer in charge of the Nānguneri, Ambāsamudram, and Tenkāsi *tāluks*, and a station on the recently opened Tinnevelly-Quilon branch of the South Indian Railway. The fields in the neighbourhood are very valuable and the population is entirely agricultural. Three miles distant is Pattamadai, where mats of fine texture are manufactured from reeds by a few Musālman families.

Settūr.—Chief town of the *zamīndāri* of the same name in the south-west corner of the Srīvilliputtūr *tāluk* of Tinnevelly District, Madras, situated in 9° 24′ N. and 77° 20′ E. It is a Union, with a population (1901) of 14,328. The *zamīndār* is of the Maravan caste, and is descended from an old family of *poligārs*. The estate is irrigated by the streams flowing down from the Western Ghāts.

Siruttondanallūr.—Town in the Srīvaikuntam *tāluk* of Tinnevelly District, Madras, situated in 8° 39′ N. and 78° 2′ E. Population (1901), 6,099.

Sivagiri Town.—Chief town of the *zamīndāri* of the same name in the Sankaranayinārkovil *tāluk* of Tinnevelly District, Madras, situated in 9° 20′ N. and 77° 26′ E. It is a Union, with a population (1901) of 18,150.

Sivakāsi.—Town in the Sāttūr *tāluk* of Tinnevelly District, Madras, situated in 9° 27′ N. and 17° 48′ E., 12 miles from Sāttūr, and midway between that town and Srīvilliputtūr. It is a Union, with a population (1901) of 13,021. Many of the Shānān merchants are well-to-do, their trade being chiefly in tobacco, cotton, and jaggery (coarse sugar). Sivakāsi was the scene of the outbreak of the disturbances of 1899, which arose out of a dispute as to the right of the Shānāns to enter the local temple. Several lives were lost in these riots, and a punitive police force of 100 men under a special Assistant Superintendent is now stationed in the town.

Srīvaikuntam Town ('Vishnu's holy heaven').—Head-quarters of the *tāluk* of the same name, in Tinnevelly District, Madras, situated in 8° 38′ N. and 77° 55′ E., on the left bank of the Tāmbraparni river, 18 miles below Tinnevelly town. It is a Union, with a population (1901) of 10,550. It contains a fine and richly endowed Vaishnavite temple, the annual festival at which attracts large crowds. An enclosure in the town surrounded by mud walls and known as the 'fort' is occupied by a peculiar subdivision of the Vellāla caste, called the Kottai ('fort') Vellālas, who keep their womenkind strictly secluded within the four walls of the enclosure and marry only within their own subdivision. Their number, as might be expected, is dwindling in consequence of this restriction. There is a fine iron bridge over the dam across the Tāmbraparni at Srīvaikuntam.

Srīvilliputtūr Town (or Nāchiyārkovil).—Head-quarters of the *tāluk* of the same name in Tinnevelly District, Madras, situated in 9° 30′ N. and 77° 37′ E., 24 miles from the Sāttūr railway station on the South Indian Railway. It is a famous place of pilgrimage, and contains a large Vaishnavite temple with a high tower and handsome sculptures. Tirumala Naik of Madura (1623–59), the most famous of his line, built for himself a small palace here, in which the *tāluk* offices are now located. The town was constituted a municipality in 1894. The municipal receipts and expenditure during the eight years after the council was constituted averaged Rs. 16,900 and Rs. 16,800 respectively. In 1903–4 the income, most of which was derived from the house and land taxes and tolls, was Rs. 19,000 and the expenditure Rs. 17,000. The popula-

tion (1901) was 26,382, consisting of 24,943 Hindus, 933 Christians, and 506 Musalmāns. A large number of the Brāhmans are Vaishnavites, and several of them depend on the temple for their livelihood.

Sūrandai.—Town in the Tenkāsi *tāluk* of Tinnevelly District, Madras, situated in 8° 59′ N. and 77° 25′ E. It is a Union, with a population (1901) of 11,810. It carries on a considerable trade in pulse and other grain with Tinnevelly town and other places in the District.

Tenkāsi Town (*Ten*, 'south,' and *Kāsi*=Benares).—Head-quarters of the *tāluk* of the same name in Tinnevelly District, Madras, situated in 8° 58′ N. and 77° 19′ E., 33 miles from Tinnevelly town, with which it is now connected by the branch line of the South Indian Railway from that place to Quilon, and on the main road from Tinnevelly to Travancore through Ariankāvu. It is a Union, with a population (1901) of 18,128, and is a busy trade centre. The place is of great sanctity, as appears from its name, and possesses a fine temple containing some excellent sculptures. Three miles from Tenkāsi is situated the famous waterfall and sanitarium of KUTTĀLAM.

Tinnevelly Town (*Tirunelveli*).—Chief town of the *tāluk* and District of the same name, Madras, situated in 8° 44′ N. and 77° 41′ E., on the left bank of the Tāmbraparni river, 446 miles from Madras city by rail. It is the largest town in the District, but the administrative head-quarters are at Pālamcottah, on the opposite bank of the river.

The early history of the place is not of much note. About 1560 it was rebuilt by Viswanātha, the founder of the Naik dynasty, who also erected many temples in it. The chief shrine at present is a large building dedicated to Siva, which is beautifully sculptured and contains many inscriptions. Mr. Fergusson considers (*Indian and Eastern Architecture*, p. 366) that, though this is among neither the largest nor the most splendid temples in Southern India, it has the rare advantage of having been built on one plan at one time, without subsequent alteration or change.

The population of Tinnevelly rose from 24,768 in 1891 to 40,469 in 1901 (of whom 34,664 were Hindus, 4,998 Musalmāns, and 807 Christians), and it ranks eighteenth among the towns of the Presidency. It was constituted a municipality in 1866. The income and expenditure during the ten years ending with 1902-3 averaged Rs. 36,500 and Rs. 34,900 respectively. In 1903-4 they were Rs. 58,700 and Rs. 59,700. The chief sources of income are the house and land taxes, and

tolls. Its limits extend to the bank of the river, but the main town is more than a mile and a half distant and the water-supply is inadequate. A scheme for furnishing both Tinnevelly and Pālamcottah with drinking water from the Tāmbraparni has long been under consideration, but financial and other difficulties have prevented it from being matured. The drainage of the town is also faulty. A proposal has recently been made to combine the two municipalities, in order to facilitate the undertaking of large public works for their common benefit. There are two second-grade colleges for boys in the town, one of which, the Hindu College, is managed by a local committee, while the other is maintained by the Church Missionary Society. An industrial school is kept up by the District board. Near the Tinnevelly railway station are the jaggery (coarse sugar) warehouses of a European firm, from which jaggery is sent by rail to their distillery and sugar factory at Nellikuppam, and two sugar factories under native management. The latter, however, owing to financial embarassments, are not at present working. There is also some timber trade in the town, the wood being brought down from Shencottah in Travancore.

Tiruchendūr.—A famous place of pilgrimage on the coast of the Srīvaikuntam *tāluk*, Tinnevelly District, Madras, situated in 8° 30′ N. and 78° 7′ E., 32 miles from Pālamcottah, with which it is connected by a trunk road. It contains a wealthy and much-frequented temple, built out into the sea and possessing a lofty tower which is a landmark for miles to mariners. The floating population in Tiruchendūr is always very large, owing to the weekly and monthly festivals at the temple. Out of 26,056 people enumerated here at the Census of 1901, more than a third were pilgrims to a feast which was then proceeding, and the town is not normally as populous as this figure would indicate. Tiruchendūr is a favourite resort in the hot season, the cool breeze from the sea moderating the heat of the plains. A railway line on the metre gauge is proposed to be constructed to the place from Tinnevelly by the District board.

Tuticorin (*Tūttukkudi*).—A town and port in the Ottappidāram *tāluk* of Tinnevelly District, Madras, situated in 8° 48′ N. and 78° 9′ E., 443 miles by rail from Madras city. It is the second seaport in the Presidency and the southern terminus of the South Indian Railway. It was first (about 1540) a Portuguese settlement, was captured by the Dutch about 1658, and taken from the Dutch by the English in 1782. It was restored to the Dutch by treaty in 1785, but retaken in 1795. The

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Dutch obtained it again in 1818, but ceded it in 1825 to the English, in whose possession it has remained ever since. Tuticorin seems to have been a most important place formerly, and in 1700 the Jesuits spoke of it as having 50,000 inhabitants.

The appearance of the town and its neighbourhood is not attractive. In parts the soil is so thin that no trees or plants will flourish, and elsewhere there is little but heavy sand, on which only palmyra palms and a few bushes grow. The rainfall is scanty, the annual average being only 24 inches. The water-supply of the town is derived from the Tāmbraparni, being brought from a reservoir 4 miles distant. The local wells are all brackish. An estimate amounting to Rs. 1,15,000 has been sanctioned for an improved scheme for supplying the town with drinking water, and the work has been taken in hand.

Tuticorin is the head-quarters of the divisional officer in charge of the Srīvaikuntam and Ottappidāram *tāluks*, as well as of an Assistant Superintendent of police and an Assistant Commissioner of Salt and Abkāri Revenue. The Additional Sub-Judge's court, hitherto located in Pālamcottah, has also been removed to the town. There is a Government salt factory at Arasadi, a village near by.

A municipality was constituted in 1866. The income and expenditure during the ten years ending with 1902–3 averaged Rs. 45,700 and Rs. 37,800 respectively. In 1903–4 they amounted to Rs. 54,700 and Rs. 61,000. The expenditure includes capital outlay on water-supply works, and the excess over receipts was met by a loan from Provincial revenues. Most of the income is derived from the taxes on houses and land and from tolls. The population in 1901 was 28,048, of whom Hindus numbered 18,418, Musalmāns 1,694, and Christians 7,936. Nearly 8,000, or 30 per cent. of the total, are Paravans (fishermen), whose forefathers were converted to Roman Catholicism in a body in the sixteenth century. Tuticorin is their chief town and the residence of the *jāti talaivar*, or headman of their caste. Several European firms have agencies in the place. It contains three Catholic churches, a convent of native nuns, and three high schools for boys. There is also an old Dutch cemetery, in which are elaborately carved tombstones bearing coats of arms.

Tuticorin ranks next to Madras City in the Presidency and sixth in all India in the importance of its trade. It possesses a cotton-spinning mill and five factories for cleaning and pressing cotton. In 1903–4 the Coral Mills Company employed

nearly 1,600 hands and turned out 2,600 tons of yarn. The other factories employed in the aggregate nearly 400 hands and pressed nearly 12,000 tons of cotton, besides considerable quantities of cinchona, palmyra-fibre, and *san*-hemp.

The harbour of Tuticorin is well sheltered, but has only 12 feet of water at the entrance. Vessels other than country craft have accordingly to anchor from 4 to 5 miles from the land, and their cargo is brought ashore in boats ranging from 20 to 50 tons burden. About 60 large boats with a total capacity of nearly 1,500 tons ply in the port, and 500 boatmen are always available. The port has an iron screw-pile pier, besides a wooden jetty for light work and six private jetties owned by European firms. There is a lighthouse on Hare Island, 2½ miles from the shore, in which is a fixed light visible for 14 miles from all directions seaward. In 1903-4, 1,350 vessels with a total tonnage of 750,000 called at Tuticorin. Of these, 450 were steamers with a tonnage of 713,000. The trade of the port has steadily advanced, the value of its exports and imports in 1903-4 amounting to 286 lakhs and 161 lakhs respectively, against 157 lakhs and 68 lakhs in 1891-2. The principal articles of export are raw cotton, live animals (principally cattle and goats to Ceylon), coffee, cotton piece-goods, drugs and medicines, oil-cake, rice, hides and skins, spices, and tea. Raw cotton makes up nearly half the total value of the export trade of the port, which conducts about three-fourths of the trade of the Presidency in this article. The value of the cotton exported in 1903-4 amounted to 119 lakhs, against 98 lakhs in 1895-6. It is sent to many parts of Europe and Asia. Tuticorin has the largest export of chillies in the Presidency, while it comes next to Cochin in the value of its export trade in tea. A large quantity of rice is annually sent to Ceylon. The chief imports are European cotton twist and yarn and piece-goods, petroleum, machinery, hardware and cutlery, areca-nuts, and timber. There is also a very large passenger traffic with Ceylon, the average number of passengers who arrived at the port during the three years ending 1901-2 being 97,190, and of those who left it 83,402. The coasting steamers of the British India Steam Navigation and Asiatic Navigation Companies call frequently, and there is a daily mail service to and from Colombo in connexion with the South Indian Railway. Passengers are conveyed to the boats in steam launches. The port is under the control of a Port officer, who is also the Superintendent of the Pearl and Chank Fisheries. A small steamer is kept up in connexion with the

latter. A committee for landing and shipping dues has recently been constituted.

Vadakku Valliyūr (*Vadakku*='northern').—Town in the Nānguneri *tāluk* of Tinnevelly District, Madras, situated in 8° 27′ N. and 77° 37′ E., on the trunk road from Tinnevelly town to Trivandrum, 28 miles from the former. Population (1901), 6,903. It has a large tank supplied from streams from the Western Ghāts. The temple dedicated to Subrahmanya is visited by large numbers of people from all parts of the District.

Varttirāyiruppu.—Town in the north-west corner of the Srīvilliputtūr *tāluk* of Tinnevelly District, Madras, situated in 9° 38′ N. and 77° 39′ E., in a deep bay in the Western Ghāts. From it a mountain path leads over into the Kambam Valley of Madura District, and another path to the dam of the PERIYĀR PROJECT on the Travancore Hills. It is a Union, with a population (1901) of 13,131 persons, mainly agricultural, and is the head-quarters of a deputy-*tahsīldār* and sub-magistrate.

Vīravanallūr.—Town in the Ambāsamudram *tāluk* of Tinnevelly District, Madras, situated in 8° 42′ N. and 77° 31′ E., with a station on the Tinnevelly-Quilon branch of the South Indian Railway. It is a Union, with a population (1901) of 17,327. A large weaving industry exists and several streets are wholly occupied by the weaver castes. The articles chiefly made are coarse towels and *mundus*, the national dress of the people of Travancore.

Virudupatti.—Town and railway station in the Sāttūr *tāluk* of Tinnevelly District, Madras, situated in 9° 35′ N. and 77° 57′ E., on the Madura border. It is a Union, with a population (1901) of 16,837, of whom a large number are Shānāns. Virudupatti is an active centre of the cotton trade, and possesses five cotton-pressing and ginning mills which afford employment to more than 400 hands.

NĪLGIRI DISTRICT

Boundaries, configuration, and hill and river systems.

Nīlgiris, The (*Nīlagiri*, 'the blue mountains').—A District in Madras, with the exception of Madras City the smallest in the Presidency[1], its area being only 958 square miles, or less than that of many *tāluks*. It lies between 11° 12′ and 11° 40′ N. and 76° 14′ and 77° E., and is bounded on the north by the State of Mysore; east and south-east by Coimbatore District; and west and south-west by Malabar. It consists of two well-marked divisions: the high, steep-sided plateau formed by the junction of the EASTERN and WESTERN GHĀTS as they run southwards down the two opposite sides of the Indian Peninsula; and a lower area adjoining, and geographically forming part of, the Malabar WYNAAD. The plateau, which is divided into the two *tāluks* of Ootacamund and Coonoor, averages 6,500 feet above sea-level, and several of its peaks run up to over 8,000 feet. It is upheld by great masses of hill, which from the plains present almost the appearance of a wall; and its summit consists chiefly of rolling grassy downs, divided by narrow valleys, at the foot of each of which is a bog or a stream. There is not a square mile of level ground on the whole of this area, and in the wrinkles of the hills nestle small but beautiful woods, known locally as *sholas*. The lower area adjoining the Wynaad forms the third, or Gūdalūr, *tāluk*, and is often called the South-east Wynaad. It is only 2,000 to 3,000 feet above the sea, is more level than the plateau, and is covered for the most part with thick forest.

Along the south-western edge of the plateau runs a line of bold hills called the KUNDAHS, several of the peaks in which are over 8,000 feet in height. Among these is the well-known MAKURTI PEAK (8,403 feet), one side of which is almost sheer for several hundred feet. To the east, overlooking OOTACAMUND, the head-quarters of the District and the hot-season residence of the Madras Government, rises DODABETTA (8,760 feet), the second highest point in the

[1] Since this article was written, a very small District of Anjengo, smaller than any of the existing Collectorates, was formed in 1906.

Indian Peninsula. To the north the general level is lower, dropping gradually towards the plateau of Mysore.

The extreme west of the District, the lower area above referred to, drains for the most part towards Malabar by the Pandi, a tributary of the Beypore river. All the rest drains eventually into the Bhavāni. This river runs eastwards under the southern wall of the plateau in a deep and malarious valley, and is joined near the eastern limit of the District by the Moyār, which receives the drainage of the northern part of the plateau and forms for many miles the boundary between the District and Mysore State, running in a curious steep-sided trench known as the Mysore Ditch. The Moyār rises on the slopes of Makurti Peak, and for the first part of its course across the plateau is known as the Pykāra. It drops into the lower country by the two beautiful Pykāra falls, not far from NADUVATTAM in the north-west angle of the plateau, and is thereafter known as the Moyār.

Geology. Geologically, the high plateau of the District consists of a great mass of the charnockite series of hypersthene-bearing granulites, with a few later dykes of olivine-norites, well seen at Coonoor, from 1 inch to 10 feet wide. Where the level drops suddenly down in the west towards Malabar, an immediate change occurs; and typical Archaean biotite and hornblendic gneisses, with intrusive bands of charnockite and much younger biotite-granite, pegmatite, and basic dykes, make their appearance. The ruby, mica, and quartz-bearing reefs of this part of the District are referred to later under Minerals.

Botany. The altitude of the District naturally causes its flora to differ altogether from that of areas on the plains. Dr. Wight's *Spicilegium Neilgherrense* describes the more important of the plants found. The chief timber trees, indigenous and other, are referred to under Forests below. On the grassy downs occur several varieties of orchids; and wide stretches of land, especially in the neighbourhood of the Kundahs, are covered with *Strobilanthes*, which once in seven years bursts into a sheet of blue blossom and then dies down. The colours of its beautiful flowers vary from a pale, bright blue to a deep purple as the clouds drift over them, and form a most striking picture; they may have suggested the name Blue Mountains. In the *sholas* grow rhododendrons, several species of ilex, *Elaeocarpus*, and *Eugenia* (the varied tints of the leaves of which render these little woods extremely beautiful in the spring), ferns of many varieties, bracken, tree-orchids with delicate blossoms, the hill gooseberry, black-

berries of especial luxuriance, the sweet-scented Nīlgiri lily, the alpine wild strawberry, and many other unusual and interesting trees and plants. English flowers (except roses, which seem to object to the high altitude) and vegetables flourish amazingly. Hedges in the gardens on the plateau are often made of heliotrope, fuchsia, and geranium, all of which grow into strong shrubs. English fruits are, however, less successful.

Of the large game found on the plateau the Nīlgiri ibex Fauna. (*Hemitragus hylocrius*) is the most interesting, occurring only on these hills and a few other parts of the Western Ghāts arther south. Tigers and leopards often, and wild dogs occasionally, ascend the plateau from the lower slopes. *Sāmbar* are common in the *sholas* throughout the hills, especially in the Kundahs. Bison (*gaur*) and elephants are fairly common in the Benne Reserve and in the Mudumalai leased forest in the Lower Wynaad. The Nīlgiri Game Association, of which the Collector is usually the president and the District Forest officer the secretary, does much to prevent promiscuous shooting. It expends on watchers and other measures of preservation the income it derives from fees for shooting licences. Among rarer animals of the smaller kind may be mentioned the Nīlgiri *langur* (*Semopithecus johni*) and the Indian marten (*Mustela flavigula*). The hill-otter is fairly common on the banks of the Pykāra river, and Carnatic carp are numerous in the same stream, into which they were introduced in 1877. Efforts are now being made by the Game Association to stock the rivers with rainbow trout (*Salmo irideus*), all efforts to get the ordinary trout to breed having hitherto proved unsuccessful. Snakes are not so common as in the low country, but forty-five non-venomous and thirteen venomous species have been noted. Most of these, however, were seen in the Wynaad, and on the plateau these pests are rare. The District is especially rich in lepidoptera, and the Wynaad and the lower slopes of the hills near Mettupālaiyam are happy hunting-grounds for the entomologist.

Of migrant birds the woodcock is fairly common on the plateau between the months of October and March. Snipe also visit the bogs at the bottom of the valleys. The edible-nest swift breeds in a few places, notably in the cave in Tiger Hill close to the toll-bar at the top of the *ghāt* road from Coonoor to Ootacamund.

The 'sweet half-English air' of the Nīlgiris has long been Climate famous, and has led to the establishment on the plateau of and temthe chief sanitarium of Southern India, OOTACAMUND, and perature.

the smaller stations of COONOOR, WELLINGTON, and KOTAGIRI. Ootacamund, the highest of these, enjoys an annual mean temperature of 57°, as compared with 83° at Madras, slight frosts occurring in the valleys at night in December and January. The climate has not, however, the invigorating qualities of the air of Europe, and is particularly unsuited to those who are liable to dysentery or sluggishness of the liver. The lower slope of the hills, particularly the Bhavāni Valley, and the Wynaad are feverish; especially so between March and May. With the burst of the south-west monsoon in June the malaria decreases, and the Wynaad then becomes comparatively healthy.

Rainfall. The average annual rainfall of the Nīlgiris is about 67 inches, but the distribution varies enormously according as each place is exposed or not to the full force of the south-west monsoon. All the western parts of the District receive the bulk of their rain during this current, and on much of the plateau the five months from December to April are almost rainless. From its proximity to the west coast, the Wynaad gets the heaviest fall, the amount registered averaging 161 inches at Devāla and 90 inches at Gūdalūr. Naduvattam, the most westerly point of observation on the plateau, receives 102 inches and Ootacamund 49 inches. Coonoor receives 63 and Kotagiri 62. This heavy rain frequently washes away portions of the roads leading to the plateau, and when the rack railway to Coonoor was first opened it also suffered considerably. Experience has now rendered it possible to protect the places most exposed to landslips.

History. Of the early history of the District nothing definite is known. It seems, however, probable that the Nīlgiris shared in the varied fortunes of the neighbouring District of Coimbatore. With the latter, it would appear to have become part of the dominions of the Naik kings of MADURA during the second half of the sixteenth century. In the next century it seems to have passed under the Hindu kings of Mysore. Haidar Alī (who, during the second half of the eighteenth century, usurped the Mysore throne) and his son Tipū were apparently impressed with its strategical importance, for they strengthened such forts as it possessed to prevent raids from the Wynaad into Mysore and Coimbatore, which then belonged to them. The District fell to the share of the Company on the distribution of Tipū's possessions after his defeat and death at Seringapatam in 1799.

Apparently the first European to ascend the hills was a

Catholic priest, who was sent up in 1602 by the Bishop of the Syrian Christians in Malabar on an evangelistic mission. Shortly afterwards, another party under a Jesuit priest named Jacome Ferrieri went up from Calicut, and the account of their adventures contains not a little information about the tribes of the hills and their manners and customs. The first Englishman to reach the top of the plateau was Buchanan, who went up in 1800 from Devanāyakkankota in the Bhavāni Valley. In 1818 Messrs. Kindersley and Whish of the Civil Service went up on a shooting trip by much the same route; and their account of the pleasant coolness of the climate first attracted attention to the possibilities of the hills as a sanitarium to replace the Cape and Mauritius. The next year Mr. John Sullivan, then Collector of Coimbatore, went up to the plateau, and from that time forward he did everything in his power to render it better appreciated and more accessible. In 1827 Ootacamund was formally established as the sanitarium of the Presidency. Mr. Stephen Rumbold Lushington, Governor of Madras between 1827 and 1830, had much to do with the opening up of the place. 'It will be the glory,' said a contemporary writer, 'of Mr. Lushington's government, without extravagant hyperbole, that he introduced Europe into Asia, for such are his improvements in the Nīlgiris.'

Archaeology.

Rude stone cairns and barrows abound on the plateau, situated usually in commanding situations on the summits of hills. A number of these, opened by Mr. Breeks, the first Commissioner of the Nīlgiris, were found to contain burnt bones, pottery, iron knives, spear-heads, &c. The subject is discussed at length in his *Primitive Tribes and Monuments of the Nīlgiris*, and the finds he made form a valuable portion of the collection of prehistoric objects in the Museum at Madras. The best bronzes and weapons were discovered in cairns on the northern side of the plateau. Near Kotagiri are a number of kistvaens, formed of large stone slabs enclosing a square space or vault, and surrounded by circles of single stones. Dolmens similar to the kistvaens, but built above-ground, occur in groups at Sholūr, Melūr, and a few other places on the plateau. Some of the older funeral stone circles built by the aboriginal tribe of Todas have been opened, and found to contain weapons, pottery, &c.

There are three old forts on the Nīlgiris—at Udaiyārkota, Hulikal Durgam, and Mālekota. The last is situated 5 miles north-west of Ootacamund near the *ghāt* road running to Sīgūr, and was utilized by Tipū Sultān, who named it Husainābād. In

digging the foundations of Bishopsdown House at Ootacamund in 1827 a Roman gold coin was discovered. This, coupled with the fact that old gold-workings have been discovered on the slopes of Dodabetta, seems to point to a very early settlement of traders and gold-diggers near Ootacamund. In the Wynaad, antiquarian interest centres chiefly round the prehistoric gold-workings found near Devāla. Some of the shafts are 70 or 80 feet deep. Old forest trees are to be seen growing out of them. The existing caste of gold-workers are the Kurumbas, but they now confine themselves entirely to alluvial washing. There is said to be a tradition among them of an extinct tribe known as Vedahs, who sunk the shafts in remote times.

The people.

The people of the Nīlgiris occupy an exceptional position in many ways. In area the District is the smallest in the Presidency except Madras City, and in population it is altogether the smallest, its inhabitants amounting to less than a fourth of those of Madras City. In 1871 they numbered only 49,501. In 1877 the South-east Wynaad was added to the Nīlgiris, and the population in 1881 increased accordingly to 91,034. In 1891 it numbered 99,797; and in 1901, 111,437. Even allowing for the increase due to the addition of the Wynaad, the growth in these thirty years has been at the rate of as much as 74 per cent., which is higher than any other District can show, although in the decade 1891–1901 the decline, caused by the falling off in the coffee-planting industry, in the number of inhabitants of the Wynaad or Gūdalūr *tāluk* (16·8 per cent.) was greater than in any other *tāluk* in the Presidency. The rapid increase in the Nīlgiris as a whole, which still continues, is due to the expansion of the two hill stations of Ootacamund and Coonoor and the cantonment at Wellington, and to its complete exemption from famine, and has been largely caused by immigration from other Districts, notably Coimbatore. Of every 100 of the people living on the Nīlgiris in 1901 only 59 had been born within the District, while 29 had come from neighbouring tracts and 12 from non-contiguous areas. Nīlgiri District is still, however, the most sparsely peopled Collectorate in the Presidency.

It contains two towns, OOTACAMUND (population, 18,596), the head-quarters, and COONOOR (8,525). The Census at both these places was taken in the cold season before the numerous summer visitors and shopkeepers and their servants had arrived, and in the hot months their population is considerably larger. The District is divided into the three *tāluks*

of Ootacamund, Coonoor, and Gūdalūr, particulars of which according to the Census of 1901 are given below:—

Tāluk.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Ootacamund . .	440	1	17	37,998	86	+ 20.2	5,150
Gūdalūr . . .	280	..	12	21,139	75	− 16.8	1,340
Coonoor . . .	238	1	20	52,300	220	+ 22.2	6,426
District total	958	2	49	111,437	116	+ 11.7	12,916

Of every 100 of the population 82 are Hindus or Animists, 5 are Musalmāns, and 13 Christians. Christians are proportionately more numerous than in any other District, and continue to be so even if all the Europeans and Eurasians among them (3,764) are left out of account. They have increased at the rate of 75 per cent. since 1881. The Nīlgiris contain proportionately fewer females than any other Madras District, there being only 84 to every 100 males. In the low country round Gūdalūr (the Wynaad), the chief coffee-planting centre, there are half as many males again as there are females, the labourers on the estates leaving their womenkind behind them when they come up from the plains. On the whole, Tamil is more spoken than any other vernacular. The District is, however, the most polyglot in the Presidency, eight different languages —Tamil, Badaga, Kanarese, Malayālam, Telugu, Hindustāni, English, and Kurumba, to give them in the order of the frequency of their occurrence—being spoken by at least 3 per cent. of the population. Badaga is a dialect of Kanarese spoken by the cultivating class of the same name, and Kurumba is the language of a forest tribe who live on the slopes of the hills. In the Coonoor and Ootacamund *tāluks* Tamil and Badaga are each the vernacular of between 30 and 40 per cent. of the people, while in Gūdalūr *tāluk* about a third of the people speak Tamil, a fifth Malayālam, and another fifth Kanarese.

Their castes. Brāhmans are scarcer in the Nīlgiris than in any area except the Ganjām Agency, numbering only 7 in every 1,000 of the Hindu and Animist population. The five Hindu castes which are found in the greatest strength are Badagas (34,152), Paraiyans (19,429), Vellālas (4,501), Kurumbas (4,083), and Chettis (2,950). Three of these—the Paraiyan labourers, the

Vellāla cultivators, and the Chetti traders—are Tamil immigrants from the low country. The other two have already been mentioned. Badagas hardly occur away from the Nīlgiri plateau; and though Kurumbas are found in several other Districts, those of the Nīlgiris are quite distinct from their fellows, living the wildest existence in the jungles and speaking their tribal dialect, instead of talking Kanarese and subsisting by shepherding like the rest of the class. Two other tribes which are not found off the plateau are the Kotas and the Todas. The former are the artisans and musicians of the community; while the latter are a primitive pastoral people, who subsist upon the produce of herds of buffaloes, and owing to their unusual ways and customs (polyandry, for example) have attracted a great deal of attention among anthropologists. The latest contributions to the literature regarding these tribes are Mr. Thurston's *Madras Museum Bulletins* descriptive of them; and *The Todas*, by W. H. R. Rivers (1906).

Their occupations.

The occupations of the people of the Nīlgiris are in several ways exceptional. They are less exclusively agricultural than those of any District except Madras city, only 61 per cent. living by the land. Of the remainder, unusually large proportions subsist by domestic service, building, commerce, the transport of merchandise, general labour, and the learned and artistic professions, while the cantonment at Wellington brings up the number of those who belong to the army to a figure beyond the normal. The ordinary native of the plain dislikes life on the cold plateau; and the cost of living there, necessitating warm clothing and a substantial house, is greater than in the low country. Consequently wages of all kinds rule very high, an ordinary unskilled labourer being able to obtain six annas a day.

Christian missions.

There are 14,845 Christians in the District, of whom 11,081 are natives. Two-thirds of them are Roman Catholics, and about a fifth belong to the various Protestant sects. Apparently the first Protestant mission to start operations on the plateau was the Church Missionary Society, which built a chapel at Ootacamund in 1857 near St. Stephen's Church. The Society has now a church at Coonoor also, and uses the Government church at Gūdalūr. It has established 13 schools, which have 810 pupils, and its work among the hill tribes is confined chiefly to the Todas and Kurumbas. There is an American Mission chapel at Coonoor, with a resident catechist; and the Basel Lutheran Mission has established settlements at Kaity, Nirkambe, and Kotagiri, with schools at each place. The

head-quarters of the latter are at Kaity, in a house in that valley which was originally built by Lord Elphinstone, Governor of Madras from 1837 to 1842, as a private residence for himself. The Roman Catholics have churches in Ootacamund and chapels at Gūdalūr and Naduvattam, and maintain eight schools.

General agricultural conditions.

Owing to its elevation, agricultural conditions in the District differ considerably from those prevailing in other parts of the Presidency. The most fertile of all the soils is a rich black loam. On the plateau this is frequently of a dense, peaty nature, and the peat obtained from it is often used as fuel. The brown soil is the next in value. The yellow and red lands are both of inferior quality and require large quantities of manure to render them in any way productive, so they are chiefly used as grazing-grounds.

In the Wynaad, cultivation of grain is almost entirely confined to the marshy, alluvial flats which occur among the low hills, and the heavy rainfall allows a considerable quantity of rice to be grown without irrigation. The soil is also so fertile that little manure is required. On the plateau only 'dry' (unirrigated) crops are raised. The best of these are found in the more sheltered areas to the east and south.

Chief agricultural statistics and principal crops.

There are no *zamīndāris* or *inām* lands in the Nīlgiris, its whole area being held on *ryotwāri* tenure. In the Gūdalūr *tāluk* the sub-tenures resemble the peculiar varieties found in Malabar. Of the 958 square miles of the District, 500, or more than half, are covered with forest, and the extent actually cultivated is less than one-third of the whole. No portion is irrigated. Statistical particulars for the three *tāluks* in 1903–4 are appended, in square miles:—

Tāluk.	Area shown in accounts.	Forests.	Cultivable waste.	Cultivated.
Ootacamund	440	309	6	80
Gūdalūr	280	105	64	108
Coonoor	238	86	17	119
District total	958	500	87	307

The cultivation consists of that conducted by the planters (chiefly Europeans, whose attention is directed to the production of coffee, tea, and cinchona), and that carried on by the ordinary native ryots. More than half of it comes within the former category.

Coffee is the most important of the three crops grown by the planters. It was introduced in 1839 from the Malabar Wynaad. By 1863–4 there were about forty estates in various parts of the District. The OUCHTERLONY VALLEY was opened up between 1850 and 1860, and by 1876 the area under coffee in it exceeded 4,000 acres. At that time coffee commanded high prices in the home markets, and the value of the crop of 1878–9 was estimated at over 1½ crores. Owing to the subsequent overstocking of the home markets with Brazilian coffee, prices have since fallen rapidly. The average price was £5 9*s.* 6*d.* per cwt. in 1891, but it fell to £2 13*s.* per cwt. in 1901. To add to the planters' embarrassments, leaf disease and the borer, an insect which eats into the heart-wood of the trees and speedily kills them, have ruined many properties. As a natural consequence many coffee estates have gone out of cultivation. The area under coffee in the District in 1903–4 was returned as 26,000 acres, but a very large portion of this area has been practically abandoned. More than half of it lies in the Coonoor *tāluk*.

The area under tea in 1903–4 was 8,000 acres, about equally divided among the three *tāluks*. Its cultivation has been steadily increasing. The plant was introduced in 1835, and in 1878 was grown on 4,200 acres. Like coffee-growing, the industry has suffered from over-production. At present there is a tendency to grow for quality rather than quantity; and fair prices are obtained for leaf cultivated and picked on scientific principles, though much of the profit is absorbed by middlemen and distributing agencies.

The introduction of the quinine-yielding cinchona from South America into India is due to the exertions of Sir (then Mr.) Clements Markham in 1860. The results of his experiments proved satisfactory; and in 1862 and 1863 the Madras Government started two plantations, one on Dodabetta and another, for species requiring a warmer and moister climate, at Naduvattam, on the north-western edge of the plateau above Gūdalūr. Later, two more plantations were started near Pykāra. The three existing plantations, Dodabetta, Naduvattam, and Hooker (so called after the celebrated botanist), cover an aggregate area of 1,630 acres, of which 990 acres are under cinchona. The chief varieties cultivated are *C. officinalis* and *C. succirubra*, with their resultant hybrids. The quinine is manufactured at a factory at Naduvattam, and sold to the public at a low price through the agency of the post offices.

There are a number of private cinchona estates on the

Nīlgiris, but the low prices for bark ruling from 1894 to 1899, which were again due to over-production, made the cultivation of the tree unprofitable; and many properties have now been converted into tea gardens. The area of private estates has fallen from 10,373 acres in 1891 to 3,200 acres in 1904. Some of them sell their bark to the Government factory.

Of the crops grown by the native ryots the chief are the millet called *sāmai* (*Panicum miliare*), rice, *korali* (another millet, *Setaria glauca*), *rāgi* (*Eleusine coracana*), barley, potatoes, and some wheat. Rice is grown only in the Wynaad; and *korali*, barley, potatoes, and wheat only on the plateau. There is also much cultivation of vegetables and fruit for the Ootacamund, Coonoor, and Kotagiri markets, and 3,300 acres of private land have been planted with the blue gum-tree, which is used for firewood. *Korali*, *rāgi*, *sāmai*, barley, and potatoes are the staple foods of the lower classes on the plateau. The ryots are unprogressive and unenterprising, though careful and industrious. They evince but little inclination to avail themselves of the Loans Acts. Only Rs. 4,900 has been advanced under the Land Improvement Loans Act, and only Rs. 12,700 under the Agriculturists Loans Act. In the Wynaad no advances at all have been taken.

Cattle, ponies, sheep, &c.

The indigenous cattle of the District are of an inferior description, owing firstly to a curious lack of nourishment in the natural grasses (it is said that there is not enough lime in the soil), and secondly to the long dry weather from January to April, during which a hot sun in the day and slight frosts at night combine to kill off the pasture. The best animals are those imported from Mysore. The buffaloes maintained by the Todas for the sake of their milk are, however, very fine beasts, being much larger than those of the plains, and carrying wide curved horns of a peculiar shape.

A miserable breed of pack ponies is raised in the District, but these animals are useful in a country where the unevenness of the ground makes cart-roads a luxury. Sheep and goats are not kept to any great extent, and efforts to introduce English sheep have not so far been successful. The Berkshire breed of pig has been crossed with the China variety with success, but it is difficult to cure bacon and hams properly owing to the absence of real winter weather. Horses have been bred for some years at a private establishment at Masnigudi, and some success has been met with. Experiments in mule-breeding were made near Sīgūr, but have now been abandoned.

Forests. The forests and plantations are of two classes, which differ widely in character. There are, first, the Reserves and plantations on the plateau, consisting of exotics and indigenous evergreen trees; and, secondly, the deciduous forest on the slopes of the hills and in the Wynaad. The natural woods or *sholas* on the plateau consist of patches of slow-growing trees and evergreens of little commercial value. In the deeper valleys trees in these are often of considerable size, but on the wind-swept downs the growth is gnarled and stunted and of little use except as cover for game.

The Government recognized at an early date that the indigenous supplies would require to be supplemented, to meet the growing demand for firewood and building timber in the sanitaria which sprang up on the plateau; and as early as 1856 experiments in the planting of exotic timber were instituted at Jakatala near Wellington. The first plantations were chiefly of Australian acacias, but it was soon seen that the eucalyptus yielded better results than any other species. The Australian blackwood (*Acacia melanoxylon*) grows very freely and is a characteristic tree of the stations on the plateau, and the same may be said of the yellow-flowered Australian wattle. This latter is, indeed, becoming a nuisance, as it is of little commercial value and spreads amazingly.

The oldest eucalyptus plantation at Ootacamund is that known as Aramby, along the western and northern slopes of the Club Hill. This was put down in 1863 and the following years. In 1878 careful experiments were conducted by the Forest department, to ascertain whether the area planted with eucalyptus was sufficient to meet the requirements of the towns on the plateau, and the results were reassuring. The present supply is, indeed, more than equal to the demand. The chief species worked is *E. globulus*, and dépôts are maintained for its sale to the public. The total area at present planted with eucalyptus and other exotics on the plateau is 3,075 acres, of which 1,696 acres are in the neighbourhood of Ootacamund and 1,379 acres near Coonoor and Wellington.

The forests on the slopes of the hills and in the Wynaad comprise the three large Reserves of Mudumalai, Benne, and Sīgūr. The first of these, which was leased from a native proprietor (the Tirumalpād of NILĀMBŪR) in 1862, contains a quantity of teak, blackwood (*Dalbergia latifolia*), bamboo, and other trees of commercial value. In Benne forest the growth of teak is even finer, owing to the heavier rainfall. There is a Government plantation of this tree, 244 acres in

extent, in this forest, but the absence of any railway renders it difficult to get the timber to remunerative markets. The Sīgūr forest is about 40 square miles in extent, including a sandal-wood area of 2,000 acres from which a moderate revenue is derived. The other timber trees in this Reserve are of inferior growth and quality.

The Nīlgiris contain iron, kaolin, mica, and gold-bearing quartz. The iron occurs in large masses at Karrashola near Kotagiri, but the absence of fuel in the neighbourhood renders it of no commercial value. Kaolin is found in several places on the plateau, but is said to contain too much iron to be of economic importance. In the Wynaad mica and gold-bearing quartz reefs occur in abundance. The attempts to establish a gold-mining industry there on a remunerative basis have hitherto proved unsuccessful. The glowing reports of experts led to the great boom of 1880, when numerous companies, with an aggregate capital of over four millions sterling, were floated on the London market. The results of crushings gave returns so much smaller than had been anticipated that the boom was followed by the equally severe depression of 1884, which led to the winding-up of nearly all the companies interested before anything had been achieved. Costly machinery sent out from England was in many cases never erected, and remains over-run by jungle or lying on the roadside to this day. A recent attempt by a local syndicate to employ the improved methods of extraction since invented has also failed to pay. Investigations lately undertaken by Messrs. Hayden and Hatch of the Geological Survey of India go to show that 'with the methods at present available for the treatment of low-grade ores, there is no hope of gold-mining in the Wynaad becoming remunerative [1].' Mica occurs throughout the Wynaad and particularly in the granitic rocks near Gūdalūr; but all efforts to extract it in sufficiently large sheets to make it commercially valuable have also, up to the present, proved unsuccessful.

Mines and minerals.

The only native industry in the District is the manufacture by the Kotas of rough knives, billhooks, earthenware vessels, &c., for the Badagas and Todas. The Kotas are the only artisan caste on the plateau, and are usually paid in kind for their productions.

Arts and manufactures.

Among large industries brewing is the most important, and four breweries are now at work. The Castle Brewery at Aravanghāt was started in 1859, and its present annual out-turn is about 80,000 gallons; the Nīlgiri Brewery, Ootacamund,

[1] *Memoirs, Geol. Surv. of India*, vol. xxxiii, pt. 2.

originally known as the Murree Brewery, has an out-turn of 131,000 gallons; the Rose and Crown Brewery at Kaity was established in 1895 and has lately been taken over by a syndicate; and the British Brewery is a small concern recently started at Ootacamund. The Castle Distillery at Aravanghāt, opened in 1886, produces 11,000 gallons of spirit annually.

The Government cordite factory near Wellington consists of two parts: the power works at the foot of the Kārteri falls, the water of which is utilized to generate electrical power for working the machinery; and the factory itself, situated some distance off in the Aravanghāt Valley. The buildings belonging to the latter already form a small town, and operations have now been begun.

There are three soda-water factories at Ootacamund, two at Coonoor, and one at Wellington. Eucalyptus oil is distilled in bulk by a firm in Ootacamund, the annual output being about 500 gallons. There is a tea factory at Devarashola in the Wynaad, and four others on the plateau at the Liddlesdale, Curzon, Glendale, and Kodanād estates. Sulphate of quinine and febrifuge are made in large quantities at the Government factory at Naduvattam from the bark of cinchona grown on the Government plantations and on private estates. The factory has been at work since 1889, and it and the plantations are managed by a special officer called the Director of Government Cinchona Plantations. It supplies the quinine used in public hospitals, not only in this Presidency but in several other Provinces and Native States. Cheap quinine has been brought within the reach of the poorer classes by what is known as the pice-packet system, which was started in 1892. Under this, 7-grain (formerly 5-grain) powders are sold at a quarter-anna (or 3 pies) each at all post offices. The great increase in the sale of these packets shows how much they are appreciated, and the net profits of the work at the Government Cinchona Plantations and the factory since they were started have amounted to about 15 lakhs.

Commerce and trade.

The Nīlgiris do not produce enough food to support the large foreign non-agricultural population. The area under cereals is only 29,000 acres, and it has been calculated that the average out-turn is not equal to more than four months' supply. Consequently large quantities of rice and *rāgi* are imported from Mysore State through Gūdalūr, and from Coimbatore District by the *ghāt* road and the rack railway which start from Mettupālaiyam.

Well-attended markets are held once a week at Ootacamund,

Coonoor, Kotagiri, and Gūdalūr. The last of these supplies the Wynaad and the Ouchterlony Valley.

The principal exports of the District are coffee, tea, cinchona bark, quinine, eucalyptus oil, and beer. Many of the Wynaad products go down to Calicut. Musalmāns control the greater part of the trade.

Railways and roads.

The only railway within the District is the rack railway from Mettupālaiyam, at the foot of the hills in Coimbatore District, to Coonoor. Work on this was started in 1891; but in 1895 the original company went into liquidation, and the assets and concession were taken over by a syndicate in London who soon raised the capital required for its completion. The line was opened for traffic with Coonoor in 1899, and is now worked by the Madras Railway Company under an agreement with the Nīlgiri Railway Company. The line is of metre gauge on the Abt system, which is an improved rack-rail modification of the Rigi principle. It is $16\frac{3}{4}$ miles long, with a gradient of 1 in $12\frac{1}{2}$ for the last $8\frac{3}{4}$ miles. The extension of this line to Ootacamund ($11\frac{1}{2}$ miles) is now being completed, arrangements being made to render it available for the new cordite factory near Wellington. The terminal station at Ootacamund will be in the centre of the town in the Mettucherri Valley.

The total length of metalled roads in the District is 145 miles and of unmetalled roads 479 miles. Of the former, 20 miles are under the charge of the Public Works department, and all the rest are maintained by the District board. Avenue of trees are not needed in this temperate climate, and only eighteen miles of road are provided with them. Ootacamund is the centre of the road system, and from it lines run to the various *ghāts* leading off the plateau. Of these the most important is that from Mettupālaiyam to Coonoor, which was built in 1833 and realigned in 1871. From Mettupālaiyam another *ghāt* leads northwards up to Kotagiri, but is little used except by passengers and traffic connected with coffee and tea estates in the neighbourhood of Kotagiri. On the north the Sīgūr *ghāt* gives access to Mysore, but the road is steep and most of the Mysore traffic comes by way of the Gūdalūr *ghāt*. At the ninth mile from Ootacamund along this a road branches to the north, leading to the Pykāra falls and the tea and cinchona estates at the north-west corner of the plateau. From Gūdalūr a good road runs to the north-east, connecting this line with the Sīgūr route near Teppakādu. From the same place other roads run north-west to Sultān's Battery in the Malabar Wynaad, and west, through Devāla and Cherambādi,

to Vayittiri and to Calicut on the west coast; and a branch goes south-west, via Nādgāni and Karkūr, to Nilambūr in the plains of Malabar. The old route from Malabar to the hills was by the Sispāra *ghāt* at the south-west corner of the plateau, but it was always very malarious and is now abandoned and overgrown with thick jungle. On the plateau, besides the main roads already mentioned, a good gravelled road runs from Ootacamund to Kotagiri and thence to Kodanād, and another to Devashola and Melūr. From Devashola a road runs east to Coonoor through Kārteri. Coonoor and Wellington are also connected with Kotagiri by a good road.

Famine.

Actual famine is unknown in the Nīlgiris, but high prices caused by scarcity in the low country occasionally cause distress among the poorer classes in the towns.

District subdivisions and staff.

Up to 1830 the Nīlgiris formed part of Coimbatore District. A portion of the plateau was transferred in that year to Malabar, but was retransferred to Coimbatore in 1843, and the Nīlgiris remained a *tāluk* of the latter District till 1868. The plateau was then constituted a separate District under a Commissioner and Assistant Commissioner, in whose hands was placed the whole of the judicial work, both civil and criminal, as well as the revenue administration. In 1873 the Ouchterlony Valley was added to the District, and in 1877 the South-east Wynaad was transferred from Malabar and became the Gūdalūr *tāluk*. In 1882 the administrative machinery was reorganized and assimilated to that in other Districts. The Commissioner was replaced by a Collector, and the Assistant Commissioner became a Head Assistant Collector.

The Nīlgiris comprise only three *tāluks*: namely, Ootacamund, Coonoor, and Gūdalūr. The first and last of these form the charge of the Collector, while Coonoor is administered by the divisional officer, whose head-quarters, formerly at Devāla, were in 1905 transferred to Coonoor. Deputy-*tahsīldārs* are in charge of Ootacamund and Gūdalūr, and a *tahsīldār* of Coonoor. Coonoor has also a stationary sub-magistrate. Unlike other Districts, the Nīlgiris have no separate Executive Engineer. Public works in the Ootacamund and Coonoor *tāluks* are in charge of the Engineer of Coimbatore, those in the Gūdalūr *tāluk* are included in the Malabar Executive Engineer's division, while the public buildings in Ootacamund town are looked after by the Consulting Architect.

Civil and criminal justice.

For civil judicial purposes the Nīlgiris are included in the jurisdiction of the District Judge of Coimbatore. In addition to the usual village Munsifs, there are two courts of original

jurisdiction, those of the Subordinate Judge of Ootacamund and of the District Munsif of Gūdalūr, the latter officer being the deputy-*tahsīldār*. The former court exercises jurisdiction over the whole District, and hears appeals from the decisions of the District Munsif.

For purposes of criminal justice the District is similarly included in the Coimbatore Sessions division. The Collector is, however, invested with the powers of an Additional Sessions Judge, and tries certain classes of sessions cases defined by executive order. Others are committed for trial to the Sessions Court at Coimbatore. The Subordinate Judge, the Treasury Deputy-Collector, and the divisional officer are usually first-class magistrates.

Crime. Crime is light outside the two municipal towns. Dacoities and robberies are very rare. Coffee-stealing was formerly prevalent in the Wynaad; but the great decline in the coffee industry, coupled with special police measures, has led to the practical disappearance of this form of crime. On the other hand, the number of offences committed in the larger towns is great, and, judged by the proportion of them to the population, the District is as criminal as any in the Presidency.

Land revenue administration. The Nīlgiris were included in the settlement of Coimbatore District (of which they then formed part) undertaken by Major McLeod in 1799. The fifteen rates of assessment fixed as the result of that settlement remained in force until 1862, when, owing to the increased demand for land by European planters and others, attention was directed to the evils arising from certain curious customary privileges enjoyed by cultivators on the hills. The first of these was the *bhurti* (or shifting) system, under which a *patta* (the document given by Government to occupiers, setting out the land they hold and the assessment payable upon it) was regarded not merely as entitling its holder to cultivate the plot specified therein, but as permitting him to shift from one place to another, and to retain without payment a preferential lien on plots formerly tilled by him, which he could return to and cultivate in rotation. Another concession enjoyed was the *aiyan* grass or fallow privilege, under which a ryot was permitted to retain a portion of his holding, not exceeding one-fifth, as fallow, on payment of only one-fourth of the ordinary assessment. A third peculiarity was the *parava pillu vari*, or grazing privilege, which allowed extensive areas to be held as grazing land on very low assessment.

In 1862 the Government determined to abolish the *bhurti* system, and to require the ryot to pay assessment for all the

land which he was entitled to cultivate. The fifteen rates of assessment were abolished and five simple rates were substituted. At the same time the Government abolished a peculiar system in vogue in the Kundahs, under which the so-called *patta* issued to the ryot was no more than a licence to him to use a certain number of ploughs or hoes, and left unstated both the extent and the position of the lands to be cultivated. These changes were followed in 1863 by the introduction of the Waste Land Rules, which not only struck the final blow at the *bhurti* system, but also disposed once for all of the vexed question of the rights of the Todas over lands on the hills.

The position of the Todas as the earliest occupants of the plateau had during the first half of the century given rise to a claim on their behalf to lordship over the hills. After much discussion it was decided by the Court of Directors in 1843 that no proprietary right over the soil, such as would interfere with the right of Government, could be admitted. This decision remained in force with certain modifications until the Waste Land Rules were introduced in 1863. The principle was then enunciated, that all lands are waste in which no rights of private proprietorship or exclusive occupancy exist. The Todas were, however, secured from interference in the enjoyment of their *mands*, the collections of curious wagon-roofed huts in which they reside, and 11 acres of land were set apart round each *mand* for the grazing of their cattle. The amount was increased to 34 acres in 1863. The land thus set apart is now regarded as the inalienable property of the Toda community.

Under the Waste Land Rules of 1863, land was sold subject to an assessment of Rs. 2 per acre for forest and R. 1 per acre for grass land. The assessment on grass land was subsequently reduced to 8 annas; and the rules have been further relaxed by the exemption from assessment, for five years after purchase on the plateau and three years in Wynaad, of land on which certain special products are to be raised.

A detailed survey was begun in 1878, and in 1881 the settlement of the plateau was undertaken, which was completed in 1884. The four old *nāds*, or divisions, were arranged into thirty-six revenue villages, and proper village establishments were organized. No attempt was made to follow the usual method of settlement based on a classification of soils. The assessment was made under special rules adapted to the peculiar circumstances of the country. The average rate of assessment per acre for the whole District, which included

house sites in Ootacamund assessed at Rs. 10 per acre and mining land rated at Rs. 5, amounted to nearly 11 annas. The rates varied little from those fixed at the settlements of 1799 and 1862; but the enormous increase discovered by the survey in the occupied area, together with fresh grants made at the settlement, resulted in raising the revenue demand by Rs. 35,000, or 104 per cent. The settlement of the Wynaad was completed separately in 1887. The tenures in this part of the District resemble those in Malabar, the land for the most part being the *janmam* property of certain large owners, who may cultivate or lease it subject to the payment of assessment to the Government. Of the twelve villages formed at the settlement out of the three *amsams* or parishes of Nambalakod, Munanād, and Cherankod, eight are still held by private *janmis*; in the remaining four the *janmam* right has by process of escheat vested mainly in Government.

In the tract of land between the foot of the Sīgūr *ghāt* and the Moyār river, forming the settlement village of Masnigudi, the ordinary *ryotwāri* tenure is in force.

The revenue from land and the total revenue in recent years are given below, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue .	54	1,67	1,48	1,72
Total revenue .	3,63	5,96	6,24	7,69

Outside the two municipalities of Ootacamund and Coonoor, local affairs are managed by the District board, composed of sixteen members. Wellington is a military cantonment, under its own cantonment committee. No *tāluk* boards or Unions have been established. The income of the District board in 1903-4 was Rs. 1,73,000. Of this about Rs. 1,19,000 was contributed by Government from Provincial revenues, the receipts derived from the land cess (Rs. 16,000), even when added to the large income from tolls (Rs. 34,000), being insufficient to provide for the maintenance of the great length of roads through difficult country which the District possesses. In the same year the maintenance of these cost Rs. 96,000. Local boards.

For purposes of police administration the Nīlgiris are attached to Coimbatore, and form part of the charge of the Superintendent of police of that District. An Assistant Superintendent stationed at Ootacamund holds immediate charge of the District. The total sanctioned strength of the force is 190, Police and jails.

distributed among 14 police stations and supervised by 3 inspectors, besides 44 village policemen.

There are 3 subsidiary jails—at Ootacamund, Coonoor, and Gūdalūr—which provide accommodation for 65 prisoners. Long-term convicts are sent to the Central jail at Coimbatore.

Education. In regard to education the Nīlgiris stand second among Madras Districts, about 12 per cent. of the inhabitants (17 males and 5 females) being able to read and write, and 5 per cent. of them knowing English. Education is, however, backward in the Gūdalūr *tāluk*. The total number of pupils under instruction in 1880–1 was 1,534; in 1890–1, 2,938; in 1900–1, 4,520; and in 1903–4, 4,636. On March 31, 1904, there were in the District 88 educational institutions of all kinds, of which 84 were classed as public and 4 as private. The former included 67 primary, 16 secondary, and one training-school, and the number of girls reading in them was 908. Of the public institutions 2, the male and female branches of the Lawrence Asylum, are controlled by a committee working under Government, 3 are maintained by the municipalities, and 14 by the District board. It is noteworthy that all the secondary schools for boys are English schools, most of them being attached to missionary institutions. The single training-school (for masters) is conducted by the Basel Lutheran Mission at Kaity, but is aided by Government. Of the male population of school-going age 35 per cent. were in the primary stage of instruction, and of the female population of the same age 10 per cent. The corresponding figures for Musalmāns were 48 and 24 per cent. respectively. There are 34 schools for Badagas at which 1,078 pupils received instruction in 1903–4, 3 schools for Kotas with 53 pupils, and one for Todas with 14 pupils. For Panchamas, or depressed castes, 10 schools are maintained, at which 391 boys and 107 girls were under instruction. The Breeks Memorial school at Ootacamund, instituted in 1874 in memory of the first Commissioner of the Nīlgiris, has undergone many vicissitudes and is now managed by the Educational department as a Government school for Europeans and Eurasians. The endowment is vested in the Treasurer of Charitable Endowments. At Coonoor a school was established by Mr. Stanes in 1875 for Europeans and Eurasians. The Lawrence Asylum at Lovedale is intended as a home and training-school for the children of European soldiers who have served in the Madras Presidency. It was started in 1858, with funds contributed as a memorial to Sir Henry Lawrence, and in 1860 its control was transferred to Government. In 1871 the

Male Military Orphan Asylum, previously established at Madras, was amalgamated with it, and the combined institution moved into the present buildings at Lovedale. In 1904 the Madras Military Female Orphan Asylum was similarly amalgamated with the girls' branch of the Lawrence Asylum. The Asylum now consists of two branches, male and female, under a head master and a head mistress respectively. In addition to an ordinary elementary education, the pupils receive practical teaching in technical and industrial subjects to qualify them to earn a livelihood when they leave. The income of the institution amounts to about Rs. 1,61,000, of which Rs. 48,000 represents the grant-in-aid from Government, Rs. 59,000 interest on investments, and Rs. 24,000 the profit derived from the Lawrence Asylum Presses at Madras and Ootacamund. The total expenditure on education in 1903-4 was Rs. 1,02,000, of which Rs. 10,500 was met from fees; and Rs. 52,000 of the total was devoted to primary education.

Hospitals and dispensaries.

The medical administration is in charge of the District Medical and Sanitary officer stationed at Coonoor, Ootacamund forming the separate charge of a Civil Surgeon. Besides the hospital at the Lawrence Asylum, which is intended only for the inmates of that institution, four civil hospitals are maintained at Ootacamund, Coonoor, Kotagiri, and Gūdalūr, and a dispensary at Pykāra. There is accommodation in all these buildings for 149 in-patients. In 1903 medical relief was afforded to 36,000 persons (of whom 1,800 were in-patients), and more than 700 operations were performed. The institutions at Ootacamund, Coonoor, and Gūdalūr contain separate accommodation for Europeans, and at Ootacamund and Gūdalūr wards for the police are also provided. There is a military hospital at Wellington, with 180 beds. The total expenditure in 1903 was Rs. 52,000, which was met in almost equal shares by grants from Government, Local and municipal funds, and donations and subscriptions.

Vaccination.

Vaccination is compulsory only in the two municipalities. In 1903-4 the number of persons successfully vaccinated was 42 per thousand, compared with an average for the Presidency of 30.

[Further particulars of the Nīlgiris will be found in the *Manual* of the District (1880), by H. B. Grigg.]

Ootacamund Subdivision.—Subdivision of the Nīlgiri District, Madras, consisting of the *tāluks* of OOTACAMUND and GŪDALŪR.

Ootacamund Tāluk.—The largest of the three *tāluks* in

the Nīlgiri District, Madras, lying between 11° 12′ and 11° 39′ N. and 76° 25′ and 76° 52′ E., and corresponding almost exactly with the old divisions of Todanād and Kundahnād. It also includes the village of Masnigudi, below the Sīgūr *ghāt*, the only village in the District where ordinary *ryotwāri* tenures obtain. The area is 440 square miles, and the population in 1901 was 37,998, compared with 31,602 in 1891. It contains one town, OOTACAMUND (population, 18,956), the head-quarters, and 17 revenue villages. The demand for land revenue amounted in 1903–4 to Rs. 38,000. The whole *tāluk* is exposed to the south-west monsoon, the annual rainfall at the western-most village of Naduvattam averaging 102 inches. Owing to its high elevation the vegetation is almost that of the temperate zone. Tea and cinchona are largely grown, the latter chiefly at Naduvattam and on the slopes of Dodabetta in the Government plantations. Experiments with jalap are also being made at the latter. Through Ootacamund *tāluk* runs the Pykāra river, the only stream of any size in the District, which leaves the plateau at the north-west corner of the *tāluk* in two picturesque falls. More than half the area (309 square miles) consists of 'reserved' forest.

Gūdalūr Tāluk.—Western *tāluk* of the Nīlgiri District, Madras, lying between 11° 23′ and 11° 40 N. and 76° 14′ and 76° 36′ E., at a much lower elevation than the rest of the District. It comprises the South-east Wynaad, which was transferred from Malabar in 1877, and the coffee-growing area called the OUCHTERLONY VALLEY. It now contains twelve revenue villages, including GŪDALŪR, the head-quarters; but most of the land is held on tenures similar to those in Malabar under the Tirumalpād of NILAMBŪR in that District. The inhabitants chiefly talk Malayālam or an admixture of that language and Tamil. The *tāluk* has lost its importance since the decline of the coffee and gold- and mica-mining industries, and is now rapidly reverting to jungle, except in a few areas like Nellakotta and Ouchterlony Valley, where coffee and tea still hold their own against the insidious *lantana*. Pandalūr and Cherumbādi, which, with DEVĀLA, were once important mining settlements, have now dwindled to a few native huts. The *tāluk* is most sparsely populated, containing on 280 square miles a population (1901) of 21,139, or only 75 persons per square mile. In 1891 the population was 25,397, the decline being due to the restriction of the industrial enterprises above mentioned. The demand for land revenue amounted in 1903–4 to Rs. 53,000.

Coonoor Tāluk.—Eastern *tāluk* of the Nīlgiri District,

Madras, lying between 11° 14′ and 11° 33′ N. and 76° 39′ and 77° E., and embracing the old divisions of Parangināḍ and Mekanāḍ. It forms the Coonoor revenue subdivision. The area is 238 square miles, and the population in 1901 was 52,300, compared with 42,798 in 1891. The land revenue demand amounted in 1903-4 to Rs. 59,000. It contains the town of COONOOR (population, 8,525), the head-quarters, the cantonment at WELLINGTON, and 19 villages. Outside these towns and the small sanitarium of KOTAGIRI the villages are merely Badaga hamlets. The picturesque Kārteri falls, situated 6 miles south-west of Coonoor, supply the electric power used at the cordite factory at Aravanghāt 3 miles away. Lying to the east of Dodabetta, the *tāluk* receives more rain during the north-east monsoon than the rest of the District. The chief coffee-planting areas are in the neighbourhood of Coonoor and Kotagiri. On the extreme east and at Kotagiri are extensive tea estates. The *tāluk* also embraces the slopes of the hills on the Coimbatore side, in one of the villages among which are the Government gardens at BARLIYĀR.

Aravanghāt.—A hamlet of Ubbuṭalai village in the Coonoor *tāluk* of the Nīlgiri District, Madras, situated in 11° 22′ N. and 76° 45′ E., 3 miles from Coonoor. It gives its name to a valley on the Nīlgiri plateau in which a cordite factory has just been completed, designed to supply cordite to the troops throughout India. It has been included within the limits of the neighbouring cantonment at WELLINGTON. The machinery is driven by electricity generated at the falls of Kārteri 3 miles off. A brewery and distillery stand close by, and the village is rapidly rising in importance. The old road to Ootacamund runs down the centre of the valley by the side of the cordite factory.

Barliyār.—Village in the Coonoor *tāluk* of the Nīlgiri District, Madras, situated in 11° 20′ N. and 76° 50′ E., 6½ miles from COONOOR, and half-way down the *ghāt* road from Coonoor to Mettupālaiyam. Population (1901), 2,234. Mr. E. B. Thomas, a former Collector of the District, started a private garden here in 1857, which was afterwards taken over by Government. Experiments in tea cultivation and in the growth of medicinal plants, camphor, rubbers, &c., which like a warm, damp climate at a moderate elevation, have been made here. The garden, which is the only one of its kind in the Presidency, is in charge of the Curator of the Government Gardens at Ootacamund.

Coonoor Town.—Town and sanitarium in the *tāluk* of

the same name in the Nīlgiri District, Madras, situated in 11° 21′ N. and 76° 48′ E., 6,000 feet above the sea, at the south-east corner of the Nīlgiri plateau, and at the head of the principal pass from the plains. Up this *ghāt* runs a road (21 miles in length) and a rack railway (16¾ miles) from METTUPĀLAIYAM in Coimbatore District. The town is 345 miles by rail from Madras City, and 11 miles by road from Ootacamund. Population (1901), 8,525, consisting of 5,297 Hindus (chiefly Paraiyans), 898 Musulmāns, and 2,327 Christians, which last includes a fluctuating number of Europeans. The place was constituted a municipality in 1866, and the municipal area is about 7 square miles. The income and expenditure during the ten years ending 1902-3 averaged Rs. 48,600 and Rs. 47,000 respectively. In 1903-4 they were Rs. 62,500 and Rs. 60,000, the principal sources of receipts being fees from markets, the taxes on houses and lands, and a contribution from Government. A water-supply scheme, estimated to cost Rs. 1,17,000, is being carried out by the council. Coonoor is the head-quarters of the divisional officer, and also contains a stationary sub-magistrate's court, a hospital, four places of worship (one Roman Catholic, one Church of England, and two of other denominations), many schools, a library, and shops and hotels for the convenience of Europeans visiting it. In the neighbourhood are several tea and coffee estates.

Coonoor is one of the principal sanitaria of the Presidency, and is perhaps second only to Ootacamund in natural advantages. The town is built in one of the loveliest sites in India, on the sides of the basin formed by the expansion of the Jakatala Valley, at the mouth of a great gorge, and surrounded by wooded hills. It possesses a cool and equable climate, the mean annual temperature in the shade being 62° F. In the warmer months the thermometer ranges between 55° and 75°; in the colder weather between 38° and 68°. The average annual rainfall is 63 inches, distributed in normal years over ninety-one days. The rate of mortality is remarkably low, and no particular ailments can be said to be characteristic of the place. The town is well kept, but owing to the increase in the population the drainage is now in need of improvement. The European settlement is on the upper part of the plateau, and the native bazars in the valley below it. The place has about 20 miles of excellent roads, and several beautiful drives, along the sides of which grow hedges of roses, fuchsia, and heliotrope, and some of which command magnificent views

of the precipitous sides of the deep valley up which the *ghāt* road climbs, the forests of its farther slopes, and a wide expanse of the plains shimmering in the heat 6,000 feet below.

Devāla.—Village in the Gūdalūr *tāluk* of the Nīlgiri District, Madras, situated in 11° 29 N. and 76° 23′ E., 4 miles from the head of the Karkūr *ghāt* leading down to Malabar, on the high road between Gūdalūr and Vayittiri. It was once an important centre for the south-east Wynaad gold-fields, and boasted a hotel and a telegraph office, while the hills around were studded with bungalows inhabited by the European employés of the gold companies. It was then made the head-quarters of the Head Assistant Collector of the District. With the decline of the gold industry it has dwindled to a hamlet with a population (1901) of 495; and its principal buildings at present are a native rest-house, a police station, and a travellers' bungalow.

Dodabetta ('Big mountain').—The highest peak of the Nīlgiri Hills and the second highest point south of the Himālayas, standing in 11° 24′ N. and 76° 44′ E., in the Ootacamund *tāluk* of the Nīlgiri District, Madras, 8,760 feet above the sea and overlooking the station of Ootacamund. In the valleys on its slopes are parts of the Government cinchona plantations, and on its summit stood for many years a meteorological observatory. This was abolished, but has lately been replaced by a better-equipped station.

Gūdalūr.—Head-quarters of the *tāluk* of the same name in the Nīlgiri District, Madras, situated in 11° 30′ N. and 76° 30′ E., at the foot of the Gūdalūr *ghāt*, on the road from Ootacamund to Calicut and at the junction of the main roads from Mysore and Malabar. Population (1901), 2,558. Gūdalūr is the head-quarters of the deputy-*tahsīldār*, who is also a District Munsif, and of a *sheristadār* magistrate, who is also sub-registrar. When the coffee and gold-mining industries were flourishing the place was of considerable importance, but with their decline it has rapidly decayed. The weekly market is, however, well attended, most of the articles sold being imported from Mysore, and a good deal of traffic between Mysore and Ootacamund passes through it. The place contains Protestant and Roman Catholic churches, a hospital with a European ward, post and police offices, and two travellers' bungalows.

Kotagiri.—Hill station and planting centre in the Coonoor *tāluk* of the Nīlgiri District, Madras, situated in 11° 26′ N. and 76° 52′ E., at the north-east of the Nīlgiri plateau, 18 miles from Ootacamund and 12 from Coonoor. Population (1901),

5,100. The *tahsīldār* of Coonoor holds fortnightly criminal sittings here. The station was founded in 1830, and has grown but slowly. Its climate is preferred by many to that of Ootacamund, as it is warmer and less exposed to the south-west monsoon. It is connected with Mettupālaiyam on the plains in Coimbatore by a good road, 20 miles in length, with a uniform gradient of 1 in 18. The abandoned military sanitarium of Dimhatti lies just outside its limits. The Basel Mission has a station here.

Kundahs.—Range of hills in the Nīlgiri District, Madras, lying between 11° 12′ and 11° 23′ N. and 76° 26′ and 76° 43′ E., and forming the south-western wall of the Nīlgiri plateau, which rises abruptly from Malabar. The summit of the ridge is rocky and precipitous; and the sides, covered in places with grass and in the hollows clothed with thick forest, slope on the north down to the bed of the Kundah river, which separates this range from the rest of the table-land, and on the south drop suddenly for a great depth into the steep-sided valley of the Bhavāni. The three highest points in the range are Avalanche Peak (8,502 feet), Bear Hill (8,353 feet), and Makurti (8,403 feet). The best big game shooting on the plateau is to be had here. Seen from Ootacamund the Kundahs are remarkably beautiful; and the view from their tops across the Bhavāni and westwards to the heavy forest of the Attapādi Valley is one of the finest in Southern India.

Makurti.—Peak in the Kundahs in the Ootacamund *tāluk* of the Nīlgiri District, Madras, situated in 11° 22′ N. and 76° 31′ E., at an elevation of 8,403 feet above sea-level. This is a favourite point for excursions from Ootacamund, the ascent being made by a zigzag path cut on the eastern face. Its western side is an almost unbroken precipice, several hundred feet in depth. The spirits of men and buffaloes are supposed by the Todas to take a leap together into Hades from this peak.

Naduvattam.—Village in the Ootacamund *tāluk* of the Nīlgiri District, Madras, situated in 11° 29′ N. and 76° 33′ E., on the edge of the north-western corner of the Nīlgiri plateau, and commanding magnificent views across the Gādalūr *tāluk* below it and the Malabar Wynaad beyond. Population (1901), 2,500. Naduvattam stands on the main road leading from Ootacamund to Gūdalūr, and thence to the coast of Malabar. It is the centre of important cinchona and tea estates, and contains the Government cinchona plantations and factory, at which is manufactured the quinine sold to the public at all post offices in 7-grain packets costing three pies each,

It has a healthy climate, and consequently forms the temporary head-quarters of the Gūdalūr *tāluk* office during the time when fever is worst in Gūdalūr. The village has a well-furnished travellers' bungalow, a rest-house for natives, and a police station.

Ootacamund Town.—Head-quarters of the *tāluk* of the same name and of the Nīlgiri District, Madras, situated in 11° 25′ N. and 76° 42′ E., on the Nīlgiri plateau, about 7,500 feet above the sea; distance from Madras city, 356 miles (the last 11 by road); from Bombay, 1,053 miles; and from Calcutta, 1,374 miles. Population (1901), 18,596, of whom 10,770 were Hindus, 2,378 Muhammadans, and 5,345 Christians. The nearest railway station is at present at COONOOR, which is reached by a rack-railway up the slopes of the plateau from METTUPĀLAIYAM, but the extension of the line to Ootacamund has now been taken in hand.

Besides containing the Collector's and the *tāluk* offices, Ootacamund is the head-quarters of the Madras Government during the hot season, and of the general officer commanding the Ninth (Secunderābād) Division and his staff. It is thus the chief sanitarium in Southern India. The possibilities of the climate of the plateau on which Ootacamund stands were first brought to notice in 1818 by two civilians who had reached it from the Coimbatore side, but it is doubtful whether they ever visited the present site of Ootacamund itself. The next year Mr. John Sullivan, the Collector of Coimbatore, within which District the Nīlgiris were then included, visited the plateau, and two years later he built the first house at Ootacamund. This was Stonehouse, which has given its name to the hill on which the Government offices are now situated. The name of the station is a corruption of Utaka-mand, a *mand*, or collection of the quaint huts in which the aboriginal tribe of the Todas live, not far from Stonehouse. Mr. Sullivan did much to enlist the sympathies of the authorities in the development of the place, and in 1827 it was formally established as the sanitarium of the Presidency. Mr. Stephen Rumbold Lushington, Governor of Madras between 1827 and 1830, greatly interested himself in opening up the station, and since then it has steadily increased and improved. The figures of population given above do not afford an adequate idea of its size, as the Census was taken in the cold months before the annual influx of hot-season visitors with their servants and following had arrived; but they demonstrate how considerable is the number of permanent residents.

The station reposes in an amphitheatre surrounded by four great hills, Dodabetta (8,760 feet), the highest point of the Nīlgiri plateau; Snowdon (8,380 feet), Elk Hill (8,090 feet), and the Club Hill. At the bottom of the valley enclosed by these, on the slopes of which are built the various residences and offices, was formerly a wide bog through which wandered a stream that eventually left the valley on the west. The lower part of this stream has been turned into a lake, round which winds a carriage drive; and the upper part of the bog has been filled in and levelled and converted into the Hobart Park, one of the most beautiful polo and cricket grounds in India, round which runs a racecourse with a lap of a mile and a quarter. By the side of the Park stands the chief bazar in the station, and farther west, in the Kāndal Valley, is another large collection of native houses.

West of this again are the Wenlock Downs, a wide expanse about 16 square miles in area, of undulating springy turf diversified with woods and streams, on which are the golf links, and which forms the home country of the Ootacamund Hunt, an institution founded in 1867 to hunt the hardy and fast hill-jackal with foxhounds imported from England. Across the downs and round the outer edges of the plateau run several carriage drives, which wind through beautiful scenery and in places command magnificent views of the low country. These downs and drives, and the possibilities they afford for outdoor exercise, constitute the chief superiority of Ootacamund over the more steep and cramped hill stations on the Himālayas.

The station itself has also a great charm. The somewhat mournful-looking Australian trees—the eucalyptus, the wattle, and the *Acacia melanoxylon*—which have been planted throughout it are perhaps now too numerous to be beautiful; but, on the other hand, plants and shrubs which in England require care and shelter here flourish in an almost wild state with wonderful luxuriance. Hedges round gardens frequently consist of roses, geraniums, fuchsia, and even heliotrope. The annual rainfall is about 49 inches, and the frosts in the colder months are only slight, so that flowers bloom in profusion in every month of the year.

Ootacamund was made a municipality in 1866. The receipts and expenditure during the ten years ending 1902–3 (excluding debt heads and other fictitious items) averaged Rs. 1,40,000 and Rs. 1,59,000 respectively. Loans have been necessary to supplement the deficit. In 1903–4 the corresponding figures were Rs. 1,92,000 and Rs. 2,53,000, the chief items among the

receipts being a grant from Government, the taxes on houses and lands, and the water-rate. The council maintains excellent driving roads throughout the station, has constructed an intercepting sewer to keep the drainage of the main bazar from polluting the lake, supplies the place with water led through pipes from the Marlimund and Tiger Hill reservoirs on the tops of the enclosing hills, controls a weekly market which is in many ways a model institution and is well supplied with commodities from the plains, and is contemplating an elaborate scheme of drainage estimated to cost 3 lakhs. Plague visited the station in 1903; and Government has lent the council money to enable it to open out the more crowded parts of the bazars, and purchase house sites for natives outside the centre of the station.

Ootacamund contains a branch of the Bank of Madras, a library established in 1859 and possessing about 15,000 volumes, several churches belonging to different denominations (of which the oldest is St. Stephen's, the chief Church of England place of worship), a residential Club, and a Gymkhana Club. The Government Botanical Gardens, situated in a sheltered valley surrounding Government House, contain many rare trees and plants and are in charge of a Curator. They cover 51 acres, and were established in 1842 during the governorship of the Marquis of Tweeddale. The educational and medical institutions of the town are referred to in the article on the NĪLGIRI DISTRICT.

Ouchterlony Valley.—A beautiful valley in the Gūdalūr *tāluk* of the Nīlgiri District, Madras, lying between 11° 23′ and 11° 30′ N. and 76° 26′ and 76° 33′ E., 39 square miles in extent, and at an average elevation of 3,000 feet above sea-level, below the south-western wall of the Nīlgiri plateau. It takes its name from Colonel J. Ouchterlony, R.E., who made the first survey of the Nīlgiris in the fourth decade of the last century and wrote a valuable memoir upon the District. The valley is now an important centre of coffee, tea, and cinchona cultivation, though the whole neighbourhood has suffered severely from the depression in the planting industry and few of the many Europeans who once resided in it are left. The area under coffee is nearly 4,000 acres, the Guynd estate alone containing an unbroken block of 800 acres in full bearing. The population in 1901 was 5,265.

Wellington. — Hill station and military cantonment in the Coonoor *tāluk* of the Nīlgiri District, Madras, situated in 11° 22′ N. and 76° 47′ E., about 1½ miles from Coonoor and

9 miles from Ootacamund, at a height of 6,100 feet above the sea. Population (1901), 4,793. It used to be called Jakatala, from a village and spur of Dodabetta of the same name in its immediate neighbourhood, but the term has now fallen into complete disuse. Wellington is the head-quarters of the Colonel on the Staff commanding the Southern Brigade of the Ninth (Secunderābād) Division, and also contains the convalescent dépôt. It is thus the principal military sanitarium in the South of India. It has a handsome range of barracks, built in 1857, and is garrisoned by a British infantry battalion which supplies detachments at Cannanore, Calicut, and Malappuram. Although it is only eleven degrees from the equator, its climate is most healthy, being temperate and yet invigorating. The thermometer seldom rises above 75° F. in the shade, and the mean temperature of the year is 62·3°. Throughout the cold months the days are clear and bracing; and if the character and time of the setting in of the south-west monsoon be regular, the middle of the year is also pleasant. The annual rainfall during the five years ending 1902 averaged 47 inches. The station is planted throughout with numerous ornamental trees, which afford shelter and add to its beauty. The intersecting valleys, the sides of the hills, and the upper plateau possess a rich soil, the result of sub-tropical forest growth, producing luxuriant vegetation, including almost all the usual European vegetables and many kinds of fruit.

MALABAR DISTRICT

Malabar (Malayālam, or Malayam, 'the land of hills.')— Perhaps the most beautiful, and certainly one of the richest and most fertile, of the Districts of Madras, lying on the west coast of the Presidency between 10° 15′ and 12° 18′ N. and 75° 11′ and 76° 51′ E. Its ancient name was Kerala, which included also the District of South Kanara and the Native States of Cochin and Travancore; the form Malabar appears to be derived from Arabian sources, the termination *bar* meaning 'country.' Name.

Excluding the LACCADIVE ISLANDS, the District has an area of 5,795 square miles, and stretches for a distance of 150 miles along the Arabian Sea from South Kanara in the north to Cochin State on the south. On the east it is separated from Coorg, the Nīlgiris, and Coimbatore by the Western Ghāts, which form a continuous mountain barrier from 3,000 to 8,000 feet high, at a distance from the coast which varies from 20 miles in the north to 60 in the south, and are interrupted only at the Pālghāt Gap, 16 miles wide, the one break in the whole of the range. In two places the limits of the District extend beyond the mountain wall: namely, in the Wynaad *tāluk*, a plateau 3,000 feet above sea-level, which really forms part of the great Mysore table-land; and in the ATTAPĀDI and Silent Valleys, which lie behind the irregular ridge stretching from the KUNDAHS to the northern pillar of the Pālghāt Gap. The most conspicuous peak in the Malabar hills is the Camel's Hump or *Vāvūl mala*, 7,600 feet high, which heads a magnificent buttress thrown out to the south-west below the Tāmarasseri Pass, where the general line of the Ghāts recedes eastward. This spur constitutes the right flank of the NILAMBŪR Valley, while the left is formed by the Kundahs, which rise to over 8,000 feet in the Nīlgiri Hills and Makurti peaks on the Nīlgiri boundary. Boundaries, configuration, and hills.

The Ghāts are thickly wooded in most parts, and contain mountain scenery of unrivalled beauty, many of the peaks being precipitous and inaccessible. The country below presents the general appearance of a sea of forest-covered hills. Long wooded spurs with deep ravines run down from the main range, and are succeeded by gentler slopes, covered with low jungle,

and by bare downs with gradually widening valleys of luxuriant cultivation. Nearer the coast the laterite downs shelve suddenly into rice plains and lagoons fringed with coco-nut palms. Along the coast is a level strip seldom more than 2 or 3 miles wide. It was thus described by Ibn Batūta as early as the fourteenth century: 'The whole of the way by land [down the coast] lies under the shade of trees, and in all the space of two months' journey there is not one span free from cultivation; everybody has his garden, and his house is planted in the middle of it.'

Rivers.

With the exception of three tributaries of the Cauvery—the BHAVĀNI, which rises in the Attapādi Valley and flows through Coimbatore, the Kabbani and the Rāmpur, which rise in the Wynaad and traverse Mysore—all the numerous rivers of Malabar flow westward from the Ghāts to the sea, where they are backed up by littoral currents and discharge into a line of backwaters and lagoons parallel to the coast. Most of the rivers are navigable by small boats for some miles beyond tidal influence, and many of the lagoons are connected by small canals; there is thus an extensive system of inland waterways of great commercial importance. The longest of the rivers is the Ponnāni, but the most important are the BEYPORE and the VALARPATTANAM; all three are connected with extensive systems of backwaters.

Seaboard and anchorages.

The seaboard is entirely open except in the extreme north at Mount Delly, a massive laterite island hill, celebrated as the first point of India sighted by the Portuguese ships. South of this as far as Calicut small headlands of laterite cliff, forming shallow bays, alternate with long stretches of sand; beyond Calicut is one unbroken stretch of sand. The sea bottom shelves very gradually, and there is no deep water within three miles of the shore. Thereafter it plunges suddenly down to 1,000 fathoms and more. Small craft find shelter in the mouths of the bigger rivers; while at CALICUT, QUILĀNDI, and COCHIN shifting mudbanks afford a calm roadstead in all weathers.

Geology.

The greater part of the low country is covered with laterite, but the underlying rock consists of fine-grained gneisses, quartzose, garnetiferous, and quartzo-felspathic. The laterite is of two kinds: namely, vesicular, derived from the decomposition of the gneiss *in situ*; and pellety, a detrital rock formed of the débris of the vesicular variety. The Wynaad plateau is composed chiefly of rocks of the charnockite series with biotite gneiss and biotite granite, in the former of which

auriferous reefs occur. Veins of pegmatite, carrying ruby mica of fair size and quality, are found in the south of it.

Owing to the perennial humidity of the climate, the flora of the District is very luxuriant. It is similar in its general character to that of Ceylon, but varies with the many changes in altitude and moisture which occur. Palms, bamboos, the jack-tree, and the pepper-vine are among the more characteristic plants of the lower levels. Higher up are heavy evergreen forests full of large timber; and tree-ferns, orchids, and mosses are plentiful. The *Hortus Malabaricus* of Van Rheede, a Dutch governor of this part of the country, is the earliest treatise on the flora of Southern India and describes as many as 794 different plants. Botany.

The fauna of Malabar is extremely varied. Throughout the Ghāts and the Wynaad are found the usual large game common to the South Indian hills, such as tiger, bear, leopard, bison, *sāmbar*, and hog. Elephants abound, especially in the Wynaad and Nilambūr forests, where large numbers are caught in pits by the Forest department. Spotted deer are confined to the hills at the foot of the Ghāts, and the Nīlgiri ibex (*Hemitragus hylocrius*) to the Pālghāt Hills and the Kundahs. Crocodiles and otters abound in the backwaters, and a very large variety of edible fish are caught all along the coast. Fauna.

The climate, though excessively damp, is on the whole healthy; but the Wynaad and lower slopes of the Ghāts, with the country immediately at the foot of the hills, are malarious, especially from February to June. The temperature of the low country varies little the whole year round, seldom rising as high as 90° or falling below 70°; there is a constant sea-breeze during the day in the hottest weather. The mean temperature for the year at Calicut is below 81°. Climate and temperature.

The rainfall is heavy and unfailing throughout the District, and the seasons are regular. Thunderstorms begin among the hills in April. In May the south-west monsoon sets in, and banks up the clouds against the Ghāts. The rains break early in June and continue to the end of September, when the south-west monsoon dies away. Three-fourths of the total fall is received during these four months. In October the north-east monsoon sets in, the rains slacken, and by December the dry season is established. The rainfall is lightest in Pālghāt, where the gap in the Western Ghāts prevents the accumulation of so much moisture as elsewhere, and heaviest among the high hills in the south of the Wynaad. The annual fall for the whole District averages 116 inches. Rainfall.

Famine, therefore, is practically unknown; while, since the rapid rivers have cut deep beds for themselves, floods are rare. Nor is there any record of serious natural calamities of other kinds, such as cyclones or earthquakes, except the storm wave of 1847, which did much damage on the LACCADIVE ISLANDS and a little on the mainland.

History. The early history of Malabar is inseparable from that of the adjoining State of Travancore. Identical in people, language, laws, customs, and climate, the whole of ancient Kerala is homogeneous in every respect, except in the accident of a divided political administration. To trace the successive waves, whether of invasion or of peaceful colonization, which are now represented by the Cherumans and Tīyans, Nāyars and Nambūdris, overlying one another in social strata, or to examine the physical justification for the legendary origin of this interesting country, is beyond the scope of this article.

It is probable that the later flood of immigration which gave to Kerala or CHERA its Nāyars and Nambūdris was part of a general movement southward, which in prehistoric times brought the best of its people and its Brāhmanism to Southern India. It is also likely that the physical formation of Kerala was due to some natural process, gradual or convulsive, which gave rise to the local legend of its having been the gift of the ocean. In very ancient times a traffic sprang up between the Mediterranean cities and the roadsteads of Malabar. The Phoenicians came by way of the Persian Gulf and afterwards by the Red Sea. Possibly the Jews made the same voyage in the reigns of David and Solomon. The Syrians under the Seleucids, the Egyptians under the Ptolemies, the Romans under the emperors, the Arabs after the conquest of Egypt and Persia, the Italians, more especially the Republics of Venice, Florence, and Genoa, have each in turn maintained a direct trade with the western ports of the Madras Presidency. In the early political history of Malabar the first figure that emerges from the mist of tradition is Cheramān Perumal, the last of the sovereigns of Chera. He is represented as voluntarily resigning his throne, subdividing his kingdom, and retiring to Mecca to adopt Islām. The date of Cheramān has been the subject of much discussion; but recently information has been received that his tomb still exists at Sabhai on the Arabian coast, and the dates on it were said to indicate that he reached that place in A.H. 212 (A.D. 827) and died there in A.H. 216 (A.D. 831). His departure from Malabar may possibly have taken place on August 25, 825, which is the first day of the Kollam era still in

use on the coast. The epoch popularly assigned to him is the middle of the fourth century. It is probable that, if the resignation and partition actually occurred, they were forced on the ruler by the growing power and turbulence of his feudatory chiefs and by the encroachments of the Western Chālukya dynasty. From this time Malabar remained divided among numerous small chieftains, of whom Kolattiri or Chirakkal in the north and the Zamorin (or Sāmūri) in the south were the most conspicuous. It was with these last two, and with the Cochin Rājā, that the early Portuguese adventurers first entered into relations.

Vasco da Gama visited Malabar in 1498, and his successors speedily established themselves at COCHIN, CALICUT, and CANNANORE. In 1656 the Dutch appeared in the Indian seas to compete with the Portuguese for the trade of the country. They first conquered Cannanore; and in 1663 captured the town and fort of Cochin, as well as TANGASSERI, from their rivals. In 1717 they secured the cession of the island of CHETWAI from the Zamorin. But in the next half-century their power began to wane: Cannanore was sold to the Cannanore family, represented at that time by Alī Rājā, in 1771; Chetwai was conquered by Haidar in 1776, and Cochin captured by the English in 1795. The French first settled at Calicut in 1698. In 1726 they obtained a footing in MAHÉ, and in 1751 acquired Mount Delly and a few outposts in the north, all of which fell into the hands of the English in 1761. Their frequent wars with the English ended in the destruction of their commerce in the East, Mahé having been thrice taken and thrice restored. The English had established themselves in 1664 at Calicut, in 1683 at TELLICHERRY, and in 1684 at ANJENGO, Chetwai, and other commercial factories. Tellicherry became their chief entrepôt for the pepper trade; and so rapid was the extension of their power and influence that in 1737 the English factors mediated a peace between the princes of Kanara and Kolattiri. They obtained the exclusive privilege of purchasing the valuable products of the country: namely, pepper, cardamoms, and sandal-wood.

For nearly a century the Marāthā pirates under Angria and other chiefs infested the coast, and ravaged even inland towns by sailing up the Beypore, Ponnāni and other rivers, till 1756, when they were destroyed by a British expedition. The Ikkeri or Bednūr Rājā in 1736 and 1751 invaded the country of Kolattiri and imposed fines on the northern division. The Pālghāt State, after dismemberment by the Rājās of Calicut

and Cochin, sought the alliance of Mysore, then ruled by its Hindu Rājā, who stationed a subsidiary force in Pālghāt. It was this connexion which afforded Haidar Alī, when he became ruler of Mysore, a pretext for invading Malabar in defence of his ally, the Pālghāt Achchan. In 1760 Haidar sent an army to Pālghāt and descended the *ghāts* through Coorg in person. Again in 1776, at the instigation of Alī Rājā, the Māppila chieftain of Cannanore, he made an easy conquest of the whole country, the Rājās flying into the jungles or taking refuge in the English settlement of Tellicherry. They, however, took advantage of the war between Haidar and the English in 1768 to reinstate themselves until 1774, when Haidar again passed down the *ghāts* with two armies and completely subjugated the country, the Hindu chiefs retiring to Travancore and Tellicherry.

On war breaking out between the English and the French in 1778, Haidar resented the asylum that had been granted by the former to refugees in 1769, and began hostilities by investing Tellicherry fort. The siege was prosecuted in a fitful manner for two years till reinforcements arrived from Bombay, when it was raised by a sortie, the success of which was so complete as practically to annihilate the besieging army. Peace intervened between 1784 and 1788, when Tipū Sultān, son and successor of Haidar, descended the *ghāts* and commenced a religious persecution of the people. This produced a rebellion; and, on the breaking out of the war between him and the British in 1790, the refugee chiefs were encouraged by proclamation to join the British cause. The contest terminated in the cession of Malabar (except Wynaad) to the Company by the treaty of Seringapatam in 1792. Since that date the District has remained in the peaceable possession of the British, except for the rebellion of the Kottayath (Pychy) Rājā in the north and various Māppilla chiefs in the south (1795–1805). Wynaad fell to the British on the death of Tipū Sultān in 1799.

Archaeology.

Prehistoric menhirs and dolmens, in which have been found bones, pottery, iron implements, and beads, are scattered all over the District. Peculiar to Malabar are the *topi kallu* ('hat-stones'), *kuda kallu* ('umbrella-stones'), and bee-hive sepulchres cut in the laterite rock. A large number of Roman coins of the early emperors have been found in Kottayam, and a few elsewhere. The architecture of the temples, both Hindu and Muhammadan, perhaps suggests Mongolian influence; the most striking feature is the reverse slope of the eaves above the veranda, a peculiarity which is found all down the west coast

but nowhere else in India south of Nepāl. Most of the temples are small; the finest are at GURUVĀYŪR, CALICUT, and TALIPARAMBA.

During the last thirty years the population of the District has advanced steadily if not rapidly. In 1871 it was 2,261,250; in 1881, 2,365,035; in 1891, 2,652,565; and in 1901, 2,800,555. Malabar is now the third most populous District in the Presidency, and, notwithstanding the large areas of hill and forest included within its limits, is more densely peopled than any other except the rich delta of Tanjore. The rate of increase is little affected by outside influences, famine being practically unknown, emigration small, and immigration a negligible quantity. The District is divided into the ten *tāluks* of which particulars, according to the Census of 1901, are appended, and also includes the Laccadive Islands:— The people.

Tāluk.	Area in square miles.	Number of		Population in 1901.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages (*desams*).				
Kottayam	481	1	223	209,516	436	+7·2	28,249
Chirakkal	677	1	273	320,107	473	+2·9	32,810
Kurumbranād	505	1	339	327,310	648	+7·6	39,119
Wynaad	821	..	58	75,149	92	−2·1	4,649
Calicut	379	1	180	255,612	674	+7·5	33,447
Ernād	979	..	221	357,142	365	+3·9	22,745
Walavanād	882	..	316	351,112	398	+7·0	30,611
Pālghāt	643	1	136	390,098	607	+4·8	37,335
Ponnāni	426	1	459	478,376	1,123	+6·5	45,517
Cochin	2	1	3	25,859	12,930	+9·0	6,011
Laccadive Islands	..	..	5	10,274	..	−3·5	461
District total	5,795	7	2,213	2,800,555	481	+5·6	280,954

Each *tāluk* is divided into *amsams* (parishes) instead of villages, and these are again subdivided into *desams*. The custom by which each family lives in its own separate homestead is inimical to the growth of towns, and there are only seven in all Malabar: namely, CALICUT, TELLICHERRY, PĀLGHĀT, CANNANORE, COCHIN, BADAGARA, and PONNĀNI. Of every 100 of the people 68 are Hindus, 30 (a far larger proportion than in any other District) Musalmāns, and 2 Christians. Malayālam, a language which is confined to the Malabar coast, is the prevailing vernacular, though 4 per cent. of the total population speak

Tamil. Mahl is the language of the islanders of MINICOY, one of the Laccadives.

Hindus. The Hindus of the District include 113,000 Tamils (30 per cent. of whom are Brāhmans), about 20,000 Telugus, and a sprinkling of other races; but the enormous majority consists of Malayālam-speaking castes peculiar to the country. The most numerous of these are the Tīyans (or Iluvans), the toddy-drawer caste, who number 661,000. Next come the Nāyars (391,000), originally the military caste of the District and still the aristocracy. They are followed by the Cherumans (246,000), the agricultural labourers of the country, who are often *adscripti glebae* in the strictest sense, and form one of the most unprogressive communities in the Presidency. The Kammālans (artisans) are the only other caste over 100,000 strong. The Nambūdri Brāhmans, though numbering under 20,000, deserve mention from their influential position. They are almost invariably landholders, often of large estates. Unlike most Brāhmans, they keep aloof from public affairs, and despise modern education; but they are the object of the deepest reverence from all other castes.

Space does not permit of a detailed account of the many ways in which Malayālam caste customs differ from those of the rest of the Presidency, but two peculiarities may be noticed. The first is the vitality of the doctrine of ceremonial pollution, which is elaborated in great detail and is still scrupulously observed except in the towns. There are regularly graduated degrees of distance within which one caste is held to pollute another; and a high-caste man returning from his bath shouts out to warn others of his approach, so that they may step aside into the fields and not pollute him. The second is the prevalence of the Marumakkattāyam law, or system of inheritance through females, which makes a man's sister's children his nearest heirs. This is invariable among the Nāyars and kindred cāstes, and is followed by most of the Tīyans and Māppillas of North Malabar and by some of those of South Malabar. The custom presumably originated in the uncertainty regarding parentage which arose from the polyandry which was formerly widely practised and may still exist in isolated cases. Among the Hindu Marumakkattāyam castes marriage consists in a union (*sambandham*) formed by a girl who has reached maturity with a man of her own or a higher caste, the main ceremonial being the presentation of a piece of cloth by the bridegroom. This union is dissolvable at will, and the children born of it belong to the mother's family (*tarwād*)

and do not inherit their father's property. In 1891, in compliance with a movement among a section of the Nāyars, the Government appointed a Commission to consider how a more permanent form of marriage might be provided for Marumakkattāyam castes; and a law was enacted by which, if *sambandhams* were formally registered, the property of the parents could be bequeathed to the children of the union.

Musalmāns. The Musalmāns of Malabar number 843,000, or more than one-third of all the followers of that faith in the Presidency. Of these, 806,000 are classed as Māppillas, a name originally applied to Arab traders and their descendants by the women of the coast, but now used to include all indigenous west-coast Muhammadans, among whom are comprised large numbers of converts from the lower Hindu castes, and descendants of the victims of Tipū's persecution. Of the remainder, 24,000 are Labbais, also a mixed race.

Eurasians are more numerous in Malabar than in any other District except Madras and the Nīlgiris.

Occupations. The people of Malabar are less exclusively agricultural than those of other Districts. This is due to the fact that a large number live by fishing and fish-curing, wood-cutting, oil-pressing, rice-pounding, and making the palm-leaf hats and umbrellas which are universally used. The number of those who subsist by service in temples, astrology, and teaching is also above the average.

Christian missions. Of the 51,000 Christians in the District, 46,000 are natives and 4,000 Eurasians. The Native Christian Church of the west coast, founded traditionally either by St. Thomas or by missionaries from Babylonia in the fourth century, appears to have been more or less independent till the sixteenth century, though acknowledging generally the supremacy of the Nestorian Patriarch of Babylon. After a long struggle against the influence of Francis Xavier and various Jesuit and other Portuguese missionaries, culminating in the famous synod of Diamper (UDAYAMPERŪR) in 1599, the Church passed under the domination of the Pope; but with the rise of the Dutch power the greater portion of the original Native Church threw off its allegiance to Rome in 1653 and attached itself to the Jacobite Patriarch of Antioch. The Carmelite missionaries, who first came to the country in 1656, gradually won back a large number of the native Christians to Rome; and the remaining section, falling under the influence of the Church Missionary Society in the beginning of the nineteenth century, have finally split up into two bodies. The indigenous Church, therefore, is now repre-

sented by three bodies: namely, the Romo-Syrians, who acknowledge the Pope and are Roman Catholics, though they have their own Syrian rite; the Jacobite Syrians, who follow the Patriarch of Antioch; and the reformed Syrians or St. Thomas Christians, who appoint their own bishops, and whose doctrines approximate to those of the Anglican Church.

The present Roman Catholic missionaries are Carmelite Fathers and Jesuits. The only Protestant mission is the Basel German Lutheran Mission, established in 1839. It has churches and schools in all the *tāluks* except Ernād and Cochin, and a congregation numbering about 6,000, or 12 per cent. of the Christian population.

General agricultural conditions.

The agricultural conditions of Malabar differ from those of the east coast as widely as do its physical features. The prevailing soil is a red ferruginous loam, but on the slopes of the Ghāts there is a rich layer of black mould formed of decayed vegetable matter. On the hills and plateaux of the low country the soil varies from rich loam to uncultivable laterite, the former being most prevalent in the Ernād, Walavanād, and Pālghāt *tāluks*, where there is extensive 'dry' (unirrigated) cultivation. The best rice crops of the District are grown in the deeper inland valleys, where a tenacious soil is enriched by the surface earth washed down from the hills. The shallower valleys contain a light loam, which becomes sandy as they broaden out near the coast, or clayey where they meet the bigger rivers and backwaters. Above the line of 'wet' cultivation there is as a rule a fringe of gardens, each with its homestead, often reaching to the very top of the hill-side; but in the southern *tāluks* the slopes are more frequently terraced and cultivated with 'wet' crops to a considerable height above the level of the valley. The soil of the level country near the coast is poor and very sandy, and subject to damage from salt-water floods. It is, however, peculiarly adapted to the growth of the coconut palm, with which the coast lands are thickly planted.

Crops.

Two 'wet' crops are grown in most of the valleys with the help of the two monsoons. The first (*kanni*) is sown in April and May and reaped in August and September, while the second (*makaram*) is sown in September and October and reaped in January and February. On some of the best lands a third crop (*punja*) is sown in February and reaped in May. On single-crop lands one or other of the above is grown; but the cultivation season varies almost infinitely with the nature of the land and its irrigation facilities, and in some cases extends over ten months. In the better soils rice is usually planted out

from nursery beds; elsewhere it is sown broadcast. 'Dry' crops are raised usually with the help of the south-west monsoon from May to August. *Modan*—rice grown on the open lower hills and in *parambas* (orchards)—is raised on the better soils once in two or three years, on the worse soils once in five years. On the best it is usually followed immediately by a crop of gingelly (*Sesamum indicum*) and another of *chāma* (*Panicum miliare*), the three crops occupying the land for more than eighteen months. *Punam*—a mixed crop of rice, millet, &c.—is raised once in seven or eight years on hill-sides roughly cleared by burning.

The 5,795 square miles of which the District consists include 18 square miles of 'minor *ināms*'; the rest, except the Laccadives and a small area held on special terms by Alī Rājā of Cannanore, is *ryotwāri*. There are no accurate statistics of the area under cultivation, &c.; but the extent cropped in 1903-4 (including temporary cultivation, i.e. the actual area cultivated for the year with 'dry' crops) was about 2,200 square miles, or 38 per cent. of the total area. Of the remainder, the major portion consists of high hills, forests, and other uncultivable areas. Cultivation statistics.

Rice is the staple food-grain, covering 60 per cent. of the net area cultivated. In gardens and *parambas*, which occupy nearly half the cultivated area, by far the most important crop is the coco-nut palm. Next come areca palms, plantains, and pepper, the latter being practically confined to the three northern *tāluks* and the Wynaad. Other garden products are jack, mango, palmyra palms, betel vines, cinnamon, and many kinds of vegetables. Gingelly, *chāma*, *rāgi*, and various pulses are raised on the open hills and in *parambas*; ginger is a valuable 'dry' crop in Ernād, Walavanād, and parts of Ponnāni, and cardamoms in Kottayam and the Wynaad, while lemon grass is being widely grown in Ernād. About 4,800 acres in the Wynaad are under coffee and 4,600 acres under tea.

No accurate statistics exist to show the extension in the area of holdings. Near the coast there is little cultivable waste, while inland the limits of cultivation are being steadily pushed back into the jungles. The Malabar ryot is very conservative in his methods of cultivation, and still generally confines himself to the use of straw and leaf manure for 'wet' lands. Fish manure is used in some gardens on the coast and in the Wynaad. The gardens could often be much improved by a more extended use of well-irrigation. No advantage has been taken of the Land Improvement Loans Act.

Cattle. There are no important local breeds of stock. In the four southern *tāluks*, where cattle are comparatively numerous, the majority are imported from Coimbatore. Male buffaloes are widely used in cultivation. In the northern *tāluks* animals are imported from Coorg and Mysore, and they are bred to a small extent in the Wynaad. Cattle are fed mainly on rice straw.

Irrigation. The cultivation of the District depends on the practically unfailing rainfall, and there are no irrigation works of any importance. 'Wet' lands are irrigated where necessary by diverting into them the innumerable streams which flow down the valleys, and some of the high-lying fields by baling with *picottahs* from small reservoirs and wells. A few temporary dams are constructed on the upper waters of the Ponnāni river and its tributaries in the Pālghāt and Walavanād *tāluks*, and a little land is irrigated by baling from the same river throughout its course. Gardens are watered by hand from the wells which most of them contain.

Forests. Nearly one-third of the total area of Malabar is occupied by forests. The forest zone, which begins about 5 miles from the foot of the Western Ghāts and extends to the eastern boundaries of the District, includes both evergreen and deciduous growth; the former being found on the Ghāts and the slopes of the hill ranges in the north of the Wynaad, from a height of 500 feet upwards, the region of very heavy rainfall (over 200 inches). The principal timber trees in the evergreen forests are ebony, white and red cedar, *pun* (*Calophyllum inophyllum*), *irimbogam* (*Hopea parviflora*), *aini* (*Artocarpus hirsuta*), and jack (*Artocarpus integrifolia*); in the deciduous forests, teak, *vengai* (*Pterocarpus Marsupium*), *ventek* (*Lagerstroemia microcarpa*), blackwood (*Dalbergia latifolia*), *karimaradu* (*Terminalia tomentosa*), *irūl* (*Xylia dolabriformis*), as well as jack and *aini*. Minor forest produce includes cardamoms, dammar, honey, wax, gall-nuts, soap-nuts, gum kino, ginger, cinnamon, pepper, &c. Most of the forests are private property, and their produce has long formed an important source of wealth to the country; but continued unscientific forestry is denuding most of the hills of their valuable trees, as it has long ago denuded the bigger isolated hills in the plains.

The Government forests cover 454 square miles, and are divided into two divisions, North and South Malabar, each under a separate Forest officer. The former includes Wynaad (199 square miles of forest) and Kottayam (32 square miles); and the latter Ernād (161), Walavanād (33), and Pālghāt (29). There are also about 80 square miles of 'reserved' lands,

which are mainly leased forests. The most important Reserves are in the north of the Wynaad and at Nilambūr (Ernād), where there are valuable teak plantations. The total receipts from Government forests in 1903–4 amounted to Rs. 1,19,000, including a considerable sum from the sale of trapped elephants.

Minerals.

The minerals of the District are now hardly worked at all. Iron ore is rudely smelted in small quantities in the east of Ernād and Walavanād. Gold seems to have been extensively worked by the natives in ancient times, both by surface washing and mining, in the valley of the Beypore river, one of the tributaries of which is called the 'gold river,' and up the slopes of the Ghāts in East Ernād and South Wynaad. The soil throughout these parts is auriferous, and there are numerous reefs of considerable thickness. About 1874 a determined attempt was made by various English companies to establish the industry by scientific quartz-crushing; but none of the mines was a success. At present gold-working is confined to a little sand-washing in the bed of the Beypore river. Mica is mined to a small extent in South Wynaad. Laterite is quarried throughout the District for building purposes, and clay for tiles and pottery is worked in most of the *tāluks*.

Arts and manufactures.

Few arts of importance are practised in the District. The weaving of calico, which derives its name from Calicut, has practically died out, though coarse cotton cloths for local use are made to a small extent in many villages. The Basel Mission has weaving establishments at Cannanore and Calicut. The chief indigenous industries are the manufacture of yarn from coco-nut husks, the husks being soaked in pits in the backwaters and the fibre beaten out by hand; toddy-drawing from coco-nut, sago, and palmyra palms, the liquor being largely drunk by the lower castes and also distilled or manufactured into coarse sugar; fish-curing, which is mainly in the hands of the Māppillas and Mukkuvans, and is carried on at thirty-one Government yards; and the pressing of coco-nut and gingelly oils in small mills worked by bullocks.

There are four mission and three native factories for the manufacture of tiles, bricks, pipes, &c., from the special clays found in the District. Their total annual output is valued at over 2 lakhs, of which more than 90 per cent. comes from the mission establishments. The tiles are widely exported. At Calicut, Tellicherry, and Ferokh are steam curing-works belonging to various European firms, at which coffee, cinchona, pepper, and ginger are cured and dried. The value of the

produce dealt with at these factories in 1902–3 was estimated at over 44 lakhs, the bulk being coffee from the Wynaad, Coorg, Mysore, and the Nīlgiris. A steam spinning-mill at Calicut, belonging to a native company, was established in 1883, with a nominal capital of 6 lakhs; the annual out-turn of cotton yarn is between 500 and 600 tons.

Sea-borne trade.

Owing to its extensive seaboard, the maritime commerce of the District is far more important than its inland trade. The chief ports are Cochin, Calicut, Tellicherry, Cannanore, Beypore, Badagara, and Ponnāni. The total value of the imports and exports in 1903–4 amounted to 223 lakhs and 512 lakhs respectively. The most important exports are coffee, coir (coco-nut) yarn and fibre, and pepper, which together make up over half the total; the other chief articles being tea, cinchona, ginger, cardamoms, copra (dried coco-nut kernels), coco-nut oil, salt fish, wood, and tiles. The chief imports are salt, rice and other grain, piece-goods, cotton twist and fabrics, metal ware, machinery, glass, hardware, dyes, drugs, gunny, and kerosene oil. The bulk of the ginger trade is with the United Kingdom, but pepper is sent largely to Italy, France, and Germany, coffee to France and Australia, coir and coco-nut oil to Germany, France, and the United States, and sandal-wood to France, Germany, and America. Half the coast traffic is with Bombay, but rice is largely imported from Burma and Bengal.

Inland trade.

The Ghāt barrier practically confines the inland trade with the eastern Districts to the route through the Pālghāt Gap, and most of it goes by rail. Of the products of the District, coco-nut oil, salt fish, and timber, and of its imports rice, salt, and piece-goods, are the chief articles carried by rail; while jaggery, tobacco, oilseeds, sandal-wood, and hides are the chief imports. By road, cattle are imported from Coimbatore, and rice is exported from the Pālghāt *tāluk*, while from Mysore and Coorg tea and coffee come down to the coast, and grain and cattle are imported in exchange for piece-goods, salt, and coco-nut oil.

Trade centres, &c.

The larger ports are the chief centres of general commerce, and Pālghāt concentrates the grain and cloth trade with the east coast. For internal trade there are numerous weekly markets, the most important of which are at Vāniamkulam and Chowghāt. The sea-borne trade is largely in the hands of European firms at Calicut, Cochin, and Tellicherry. Of the native castes Māppillas are the chief traders; but numerous Pārsī, Arab, and Gujarātī merchants are settled on the coast,

and in Pālghāt are found some Labbais and Chettis from the Tamil country.

The south-west line of the Madras Railway (standard gauge) enters the District in the south-east through the Pālghāt Gap and runs along the Ponnāni river to within a few miles of the sea, and then turns north and follows the coast to Cannanore, a total distance of 157 miles. The line is now being extended into South Kanara. From Olavakod a small branch of $2\frac{1}{2}$ miles runs to Pālghāt, and from Shoranūr the new metre-gauge line, opened by the Cochin State in 1902, goes to Ernākulam. Railways.

The total length of metalled roads in the District is 606 miles, and of unmetalled roads 790 miles. Of the metalled roads 70 miles are under the charge of the Public Works department and the rest are maintained from Local funds. There are avenues of trees along 1,534 miles of road, including by-roads not maintained from public money. The chief lines are the road from Calicut to the Coimbatore frontier through Malappuram and Pālghāt; the four *ghāt* roads from Cannanore, Tellicherry, and Calicut to the Mysore and Nīlgiri frontiers, through the Perambadi, Peria, Tāmarasserri, and Karkūr passes respectively; and the coast road from the South Kanara border to Beypore. The District as a whole is fairly well supplied with roads except in the eastern portions of the four northern *tāluks*, the inner parts of Ernād and Walavanād having been opened out during the last twenty years in connexion with the suppression of Māppilla outbreaks. But the hilly nature of the country necessitates a large number of made roads if communication is to be easy. Roads.

Equally important with the roads is the extensive system of inland water communication, which includes the CONOLLY CANAL and the PONNĀNI and VALARPATTANAM rivers, and comprises in all 587 miles of navigable river and backwater, connected by 50 miles of canal. The backwaters are not deep, and the canals are adapted only for small boats, being mostly from 10 to 12 feet broad and very shallow. All the traffic, both of goods and passengers, is carried in primitive native dug-outs. Inland water communication.

The sea-borne coasting traffic is mainly carried in native craft called *pattamārs*. There are thirty-nine ports and sub-ports, but these afford little protection from bad weather except for the smaller boats that can enter the mouths of the rivers on which many of them are situated. Coasting steamers of the British India and Asiatic lines call at the chief ports frequently, except during the monsoon, and both lines carry passengers. Coast traffic by sea.

Famine. Famine in the strict sense is unknown in Malabar, since the south-west monsoon never fails. But though the District exports grain, it does not produce enough for its own consumption; and in a time of scarcity elsewhere the general rise in the price of foodstuffs, combined with the increased demand from neighbouring Districts, is liable to cause distress among the poorer classes, especially in the latter months of the monsoon when field labour is not required and the new harvest is not available. In the great famine of 1876–7 high prices were combined with a serious failure of the second crop, and gratuitous relief had to be widely given. Similar measures were necessary to a small extent in the monsoon of 1897, when an average of 6,000 persons were fed daily for five months.

District subdivisions and staff. For general administrative purposes the District is grouped into six subdivisions. Three of these are usually in charge of Covenanted Civilians. They are the Pālghāt subdivision, comprising the Pālghāt and Ponnāni *tāluks*; the Malappuram subdivision, comprising Ernād and Walavanād; and the Tellicherry subdivision, consisting of the Chirakkal, Kottayam, and Kurumbranād *tāluks*. The remaining three subdivisions, Wynaad, Calicut, and Cochin, formed of the *tāluks* of the same names, are each under a Deputy-Collector recruited in India. The outlying ports of ANJENGO and TANGASSERI were also included in the charge of the Deputy-Collector at Cochin till 1906, when they were constituted into a new unit called the District of Anjengo, under the administrative control of the Resident in Travancore and Cochin. The Laccadive Islands fall under the administration of the Calicut divisional officer.

Civil and criminal justice. For judicial purposes the District is divided into North and South Malabar, with District Courts at Calicut and Tellicherry. Subordinate to the former are three Sub-Judges and twelve District Munsifs; and to the latter, eight Munsifs. The District ranks second in the Presidency in the number of the civil suits filed.

Māppilla outbreaks. Grave crime is now comparatively rare; but since 1836 the public peace has been periodically disturbed by outbreaks among the Māppillas. Starting with the murder of a Hindu landlord, the looting of a house, or the defiling of a Hindu temple, a small body of these men will run riot over the country, gathering adherents as they go, until finally brought to bay, when they invariably sell their lives as dearly as possible. Experience has proved that native troops cannot be relied on to deal with these outbreaks; and since 1851 a detachment of British infantry has been stationed at Malappuram, the most

convenient centre of the menaced tract, and in the same year a special police force was organized for their suppression. In 1852 the Tangal (high-priest) of TIRŪRANGĀDI, who was suspected of fomenting the disturbances, was banished by Mr. Conolly, the District Magistrate; and in the following year a special Act was passed providing for the treatment of Māppilla fanatics, and for the fining of the villages in which outbreaks should occur. Two years later Mr. Conolly was murdered in his veranda by a body of fanatics who had escaped from the Calicut jail. The Māppilla Act was then for the first time put into force. The most serious outbreaks in recent years have been in 1873 at Kolattūr; in 1885 at Trikkalūr in the Ernād *tāluk*, when twelve fanatics took up a strong position in a Hindu temple from which they were only dislodged by the use of dynamite; in 1894 at Mannārakkāt, when the gang numbered thirty-five and had to be driven from their position by a howitzer; and in 1896, when nearly a hundred men were shot down in the MANJERI temple.

Inquiries show that though agrarian grievances, such as eviction by Hindu landlords, or the refusal of a landowner to grant a site for a mosque, have been the incentives to many of these outbursts, yet in all the big outbreaks it has been impossible to impute any definite motive to the majority of those who joined the gang. The one constant element is a desperate fanaticism: surrender is unknown; the martyrs are consecrated before they go out and hymned after death. Other noticeable features are that the gang mainly consists of men, or boys, of the lowest class; while with few exceptions the outbreaks have originated within a radius of 15 miles round Pandalūr, a hill in Ernād which was the home of one of the chief Māppilla robbers who disturbed the early years of British supremacy. It lies amid large tracts of uncleared jungle, which have long attracted the unsuccessful Māppillas, who are crowded out of their villages in the west, and who remain for the most part ignorant and destitute and ready on slight provocation to let their smouldering fanaticism kindle.

Special efforts have been made for many years to encourage education and to open up the country in the fanatical zone; but the natural characteristics of the District and its inhabitants make progress in either of these directions necessarily slow. Recently two regiments of Māppillas have been recruited for the Indian Army.

Land revenue history.

In Malabar, unlike other Districts of Southern India, the Hindu rulers appear to have levied no regular land revenue,

but to have contented themselves with customs and tolls and with the occasional levy of special contributions. The Nāyars quickly attained pre-eminence among the various immigrant tribes, and organized the country on a military basis, dividing it into *nāds*, each under its Nāyar chief, who in return for military service granted his vassals fiefs held free of land revenue and carrying with them various administrative and other privileges. The chiefs themselves retained domains for their own support. This organization was probably not disturbed by the Brāhman immigration, though the Brāhmans in Malabar, as elsewhere, attained great influence and received large grants of land for their own support and the maintenance of their temples; and the feudal system seems to have continued both when the *nāds* were combined into a kingdom, and when, on the abdication of the last of the Perumāls, the country was again split up into *nāds*. As the influence of the Rājās who succeeded to the Chera kings declined, the process of disintegration continued, and the fief-holders and Brāhman landowners naturally claimed independent lordship of their lands; and these formed the bulk of the *janmis* (landowners) on whose share of the produce the Mysore assessment was eventually levied.

Before the Mysore conquest.

The Mysore settlement.

Haidar Alī, on his conquest of the District at the end of the eighteenth century, proceeded to introduce a regular system of land revenue. The various *nāds* were, however, settled at different times and according to no definite system. The principle was to take for the government revenue a share in money of the *janmi's* rent, or *pāttom*; but the share appears to have varied from 10 per cent. on some 'wet' lands in North Malabar to 100 per cent. on gardens in South Malabar. The rate of commuting into money the rents paid in kind likewise varied in the different *nāds*, while in North Malabar the collection was entrusted to the chiefs of the *nāds* and in South Malabar to Muhammadan officials.

During British occupation.

On the cession of the District to the British, the Commissioners appointed to settle the country adopted the Muhammadan revenue assessment. During 1792-3 the Zamorin and other Rājās were allowed to collect the revenue; and in 1794 a system of quinquennial settlement with the Rājās of the *nāds*, based on the Muhammadan accounts prepared in 1782, was introduced. The *zamīndāri* system, however, failed to work; the Government resumed the collection of the revenue, and, owing to the continued complaints of inequality, the Collector appointed in 1801 set himself to revise the whole

assessment on regular principles. On 'wet' lands one-third of the net produce, after deducting cultivation expenses, was to go to the cultivator, and the remainder or *pāttom* was to be divided in the proportion of six-tenths to the Government and four-tenths to the *janmi*. On *paramba* lands the gross produce of the trees was to be divided in three equal shares between the cultivator, the *janmi*, and the Government. These principles were approved and a proclamation issued accordingly in 1805; but the settlement was not proceeded with, as it was decided that the existing assessment was adequate and not unpopular. Subsequently a settlement of garden lands on these lines was taken in hand and introduced into various *tāluks* between 1829 and 1840; and in the Kurumbranād *tāluk* this settlement was revised in 1853. Otherwise the Muhammadan settlement of 1776 remained in force till 1900, when the introduction of a new settlement, based on a scientific survey conducted between 1887 and 1895 and following the principles of the *ryotwāri* settlements of the other Districts of the Presidency, was begun.

The new settlement.

In the new settlement the cultivable land has been divided into 'wet,' garden, and 'dry'; and acreage rates, based on the Government share of the produce claimed in the proclamation of 1805, have been assigned. The new rates were introduced throughout the District by the end of 1903-4. The result will be an enhancement of the land revenue by about 76 per cent., or 13 lakhs, an increase which is to be attributed to the rise in prices during a period of more than a century and to the increase in the area brought under permanent assessment, which amounts to about 50 per cent. above the area shown in the old accounts. Under the old settlement 'wet' rates varied from 4 annas to Rs. 40 per acre, the average being Rs. 3; for gardens and 'dry' land no accurate acreage rates are obtainable. Under the new settlement the 'dry' assessment averages (excluding the Wynaad) R. 0-13-2 per acre (maximum, Rs. 2; minimum, 4 annas), the 'wet' assessment Rs. 3-8-11 (maximum, Rs. 7-8-0; minimum, 12 annas), and the garden assessment Rs. 2-15-3 (maximum, Rs. 7; minimum, R. 1). The revenue from land and the total revenue in recent years are given below, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	21,39	20,95	23,94	29,97
Total revenue . .	35,88	38,07	46,64	54,55

Land tenures.

The landlord's right in the soil is held to vest in the *janmi*. The word *janmam*, literally meaning 'birth,' perhaps carries with it the idea of hereditary ownership. The probable evolution of the *janmi* as landlord has been sketched above. As now interpreted by the Courts, *janmam* right means the proprietary interest of the landlord in the soil, and is freely bought and sold; but the idea of property in land is of comparatively modern growth. The commonest form of tenure under the *janmi* is *kānam*, which word seems to mean literally 'visible property,' and to be applied to the sum lent by a tenant to his landlord, or, originally, to the present brought by a retainer to his chief in return for protection. As now defined by the Courts, a *kānam* implies a usufructuary mortgage entitling the mortgagee to a twelve years' occupancy with a right to his improvements, subject to the payment of an annual rent to the mortgagor. There are various subsidiary forms differing according to the interest in the land secured to the mortgagor. The ordinary forms of simple lease (*verumpāttom*) and mortgage (*panayam*) are now becoming common.

Local boards.

Outside the five municipalities of Calicut, Cochin, Cannanore, Pālghāt, and Tellicherry, local affairs are managed by the District board and the *tāluk* boards of the five subdivisions of Tellicherry, Calicut, Malappuram, Pālghāt, and Wynaad. The expenditure of the boards in 1903–4 was nearly 4½ lakhs, more than half of which was laid out on roads and buildings. The chief sources of income are the land cess and toll and ferry collections, yielding nearly 2·67 and 1·59 lakhs respectively. The District possesses none of the Unions common on the east coast, few of its villages being built in the close order which demands expenditure on sanitation.

Police and jails.

The District Superintendent of police is assisted by three Assistant Superintendents, stationed at Pālghāt, Malappuram, and Tellicherry. There are 105 police stations in the District and 2 outposts. The force consists of 24 inspectors, 3 European head-constables, 141 head-constables, and 1,125 constables. The special force reorganized in 1885 for the suppression of the Māppilla outbreaks, with its head-quarters at Malappuram, consists of one inspector, 4 European head-constables, 4 head-constables, and 81 constables.

The Central jail is at Cannanore, while 21 subsidiary jails have a total accommodation for 527 prisoners.

Education.

According to the Census of 1901, Malabar stands fourth among Madras Districts in the literacy of its population, of

whom 10 per cent. (17·4 males and 3·0 females) are able to read and write. Education is most advanced in the coast *tāluks*, and most backward in the Wynaad, with its many coolies and hillmen, and in Ernād, the most distinctively Māppilla *tāluk*. The total number of pupils under instruction in 1880–1 was 31,894; in 1890–1, 70,329; in 1900–1, 84,408; and in 1903–4, 91,661, including 19,331 girls. On March 31, 1904, there were, besides 564 private schools, 1,038 public educational institutions of all kinds, including 954 primary, 75 secondary, and 6 training and special schools, and the three Arts colleges at Calicut, Pālghāt, and Tellicherry. Of the public institutions, 24 were managed by the Educational department, 96 by local boards, and 50 by municipalities; while 639 were aided from public funds, and 229 were unaided but conformed to the rules of the department. As usual, the vast majority of those under instruction are only in primary classes, though Malabar stands third among Madras Districts in the proportion of pupils under secondary instruction. Of the male population of school-going age 24 per cent. were under instruction in primary standards in 1903–4, and of the female population of the same age nearly 7 per cent. Among Musalmāns, the corresponding percentages were 35 and 10 respectively. Few of these have advanced beyond the primary stage, and a large proportion receive instruction only in the Korān. The total number of female pupils exceeded that of any other District. There were 22 primary schools for Panchama boys, with 908 pupils. The total expenditure on education in 1903–4 was Rs. 5,18,000, of which Rs. 2,10,000 was derived from fees. Of the total, 53 per cent. was devoted to primary education.

Hospitals and dispensaries.

The District possesses 14 hospitals and 9 dispensaries, including a leper hospital at Palliport (Pallipuram), near Cochin, founded by the Dutch in 1728. They contain in all accommodation for 419 in-patients. In 1903 the total number of cases treated was 261,000, of whom 5,100 were in-patients, and 10,000 operations were performed. The total expenditure amounted to Rs. 78,000, the great part of which was met from Local and municipal funds.

Vaccination.

Malabar is backward in regard to vaccination. Statistics for 1903–4 show that the number of persons successfully vaccinated was 23 per 1,000, compared with an average for the Presidency of 30. Vaccination is compulsory only in the municipalities.

[For further information regarding the District, see *Malabar*,

by W. Logan (1887), and *Malabar Law and Custom*, by H. Wigram and L. Moore (Madras, 1900).]

Tellicherry Subdivision.—Subdivision of Malabar District, Madras, consisting of the KOTTAYAM, CHIRAKKAL, and KURUMBRANĀD *tāluks*.

Kottayam.—*Tāluk* in the north of Malabar District, Madras, lying between 11° 41′ and 12° 6′ N. and 75° 27′ and 75° 56 E., with an area of 481 square miles. It contains 28 *amsams*, or parishes. The population increased from 195,485 in 1891 to 209,516 in 1901. The land revenue demand amounted in 1903–4 to Rs. 1,87,000. The only place of importance is TELLICHERRY (population, 27,883), the head-quarters. The *tāluk* is shut in on the east by the Western Ghāts, from which it drops rapidly down to the Indian Ocean on the west. Parallel to the coast are extensive terraces of laterite, barren themselves, but cut through by ravines and broken ground on which both trees and crops flourish luxuriantly, providing the fertile appearance which is such a charm in this District.

Chirakkal.—Northernmost *tāluk* of Malabar District, Madras, lying between 11° 47′ and 12° 18′ N. and 75° 11′ and 75° 41′ E., with an area of 677 square miles. It contains 43 *amsams*, or parishes. The population increased from 310,941 in 1891 to 320,107 in 1901. The demand for land revenue amounted in 1903–4 to Rs. 3,39,000. It contains the seaport of CANNANORE (population, 27,811), which is also the head-quarters, and the towns of TALIPARAMBA and VALARPATTANAM. In the north-eastern corner of the *tāluk* two hill tribes are found, the Vettuvars and the Mavilars, who supply the agricultural labour of the country and are practically agrestic slaves. The females of these tribes wear nothing but green leaves, which are changed daily at noon. An attempt at reform in the matter of dress was once made, but to no purpose, as the individuals who tried the experiment of wearing clothes all came to untimely ends. The north-east and east of the *tāluk* are bounded by the great range of the Ghāts and the western side by the Indian Ocean. Along the coast the beach is generally low and sandy, but immediately behind it rises the high lateritic formation which is characteristic of this part of Malabar; and the contrast between the red soil which this forms and the many groves and fields which lie in the hollows among it is exceedingly picturesque.

Kurumbranād.—Coast *tāluk* in Malabar District, Madras, lying between 11° 21′ and 11° 48′ N. and 75° 32′ and 75° 59′ E., with an area of 505 square miles. It contains 104 *amsams*, or

parishes. The population increased from 304,077 in 1891 to 327,310 in 1901. The land revenue demand amounted in 1903-4 to Rs. 3,94,000. The head-quarters are at BADAGARA (population, 11,319), the only other place of any importance being QUILĀNDI. The KORAPULA river forms a portion of the boundary between the Kurumbranād and Calicut *tāluks*. On the east the *tāluk* is bounded by the plateau of the WYNAAD, and the line of hills which marks the edge of this forms a picturesque background to the beautiful scenery in which the country abounds. The soil on the east is generally red and lateritic; in the interior it becomes a rich loam, which is sometimes cultivated with rice; while towards the coast it is a loose brown earth of inferior fertility.

Wynaad.—Highland subdivision and *tāluk* of Malabar District, Madras, lying between 11° 27′ and 11° 58′ N. and 75° 47′ and 76° 27′ E., with an area of 821 square miles. It contains 23 *amsams*, or parishes, and 75,149 inhabitants (1901), or less than 100 persons per square mile, which is a lower density than in any other Malabar *tāluk*. The population at the Census of 1891 was 76,762, and the decrease is due to the decline in the coffee industry. The head-quarters of the *tāluk* are at MĀNANTODDY, and the only other village of importance is VAYITTIRI, in the centre of the coffee-growing country. The land revenue demand amounted in 1903-4 to Rs. 1,60,000.

The Wynaad consists of a table-land 60 miles by 30, lying amid the Ghāts at an average height of 3,000 feet above sea-level. Its most characteristic features are low ridges of hills, with sharp peaks (rising in some places to 6,000 ft.) and extensive valleys. Towards the east, where it merges into the plateau of Mysore, the country becomes more level. In the south-east the Ghāts are low till they meet the Nīlgiris near NADUVATTAM; on the west and south-west, where the *tāluk* joins the low country of Malabar, there are several peaks of over 6,000 feet. The *tāluk* contains wide forests, which abound in game and are rich in teak and blackwood and other valuable timber. The chief Government Reserves are the Chedleth range of 100 square miles of deciduous forest, lying round Sultān's Battery; and the Begurpadri range of 85 square miles of deciduous and evergreen forest, lying round Manantoddy and up the slopes of the Brahmagiris. The chief rivers are the Kabbani and Rāmpur, tributaries of the CAUVERY. The climate is damp and, for eight months of the year, cool. The fever for which the Wynaad was once notorious has become

less prevalent with increased clearing. The annual rainfall averages 130 inches, but is much heavier in the west than in the east. Rice, *rāgi*, and other dry grains are cultivated in the valleys and on the lower slopes, but the chief products are coffee, tea, and pepper. In 1904 there were 69 coffee plantations covering an area of 7,847 acres, of which about 4,800 acres were actually planted; and 27 tea plantations occupying 6,602 acres, of which 4,600 acres were under cultivation. The coffee industry was first introduced in 1805, but was not fairly established till about 1840, when several European planters opened up estates. The industry reached its height about 1880; but it has since steadily declined, a fungoid leaf disease, which first appeared in 1868, and other pests having ruined many properties. To these have lately been added Brazilian competition, and the planters are now turning their attention to pepper and other special products. In 1904 the total out-turn of coffee was 645 tons. Tea cultivation was introduced in 1880 and has increased with the decline of coffee. The yield in 1904 was 863,000 lb., much of it of excellent quality. Cinchona bark was widely cultivated twenty years ago, but is now found only in small patches. Pepper cultivation is on the increase, and is at present profitable; the vines are larger than in the low country, and give heavier crops.

Calicut Tāluk.—Coast subdivision and *tāluk* in the centre of Malabar District, Madras, lying between 11° 10′ and 11° 33′ N. and 75° 45′ and 76° 9′ E., with an area of 379 square miles. It contains 74 *amsams*, or parishes. The population increased from 237,682 in 1891 to 255,612 in 1901. The land revenue demand amounted in 1903–4 to Rs. 2,20,000. The *tāluk* contains the municipality of Calicut (population, 76,981), the head-quarters of the District, and the seaport of Beypore. The Conolly Canal, about 3 miles long, connects the Korapula and Kallāyi rivers. On the east the *tāluk* is bounded by the plateau of the Wynaad, the chief road to which runs through it. The whole is covered with picturesque undulations, well wooded and interspersed with rice-fields.

Malappuram Subdivision.—Subdivision of Malabar District, Madras, consisting of the ERNĀD and WALAVANĀD *tāluks*.

Ernād.—*Tāluk* in Malabar District, Madras, adjoining the Nīlgiris, and lying between 10° 57′ and 11° 32′ N. and 75° 49′ and 76° 33′ E., with an area of 979 square miles. It contains 54 *amsams*, or parishes. The population increased from 343,775 in 1891 to 357,142 in 1901. The land revenue demand amounted in 1903–4 to Rs. 3,40,000. The only

places of importance besides the head-quarters (MANJERI) are the military station of MALAPPURAM, and the villages of FEROKH, NILAMBŪR, and TIRURANGADI. The *tāluk* is made up of hills clothed with forest. The eastern portion includes the valley of NILAMBŪR, which produces the finest teak and other timber in the District. The centre contains several smaller ranges which separate more level valleys. The coast portion is more gently undulating, and is intersected in all directions by low ground in which rice is extensively cultivated.

Walavanād.—Inland *tāluk* in the south of Malabar District, Madras, lying between 10° 45′ and 11° 14′ N. and 76° 5′ and 76° 48′ E., with an area of 882 square miles. It contains 118 *amsams*, or parishes. The population increased from 328,068 in 1891 to 351,112 in 1901. The land revenue demand amounted in 1903–4 to Rs. 4,17,000. The head-quarters are at ANGADIPURAM (population, 4,500). The *tāluk* runs along the foot of the Western Ghāts, many of the spurs of which extend into it. A detached portion, the Attapādi Valley, lies beyond this range. The rest is a series of hills and dales, the former of which are covered with groves of fruit trees and dotted with the dwellings of the cultivators, while the latter are cultivated with rice watered from the perennial streams which rise among them.

Pālghāt Subdivision.—Subdivision of Malabar District, Madras, consisting of the PĀLGHĀT and PONNĀNI *tāluks*.

Pālghāt Tāluk.—Southernmost *tāluk* of Malabar District, Madras, lying between 10° 25′ and 10° 57′ N. and 76° 25′ and 76° 51′ E., with an area of 643 square miles. It contains 113 *amsams*, or parishes. The population increased from 372,133 in 1891 to 390,098 in 1901. The land revenue demand amounted in 1903–4 to Rs. 4,94,000. The only place of importance besides PĀLGHĀT (population, 44,177), the head-quarters, is the village of KOLLANGOD. The *tāluk* lies in the remarkable break in the Western Ghāts which is known as the Pālghāt Gap ; on the north it is bounded by spurs which run up to the Nīlgiri plateau, while on the south it is faced by the great Anaimalai Hills. The forests which lie at the foot of these two masses of hill are some of the densest in the Presidency.

Ponnāni Tāluk.—Southernmost coast *tāluk* of Malabar District, Madras, lying between 10° 15′ and 11° 3′ N. and 75° 52′ and 76° 13′ E., with an area of 426 square miles. It contains 73 *amsams*, or parishes. The population increased from 449,290 in 1891 to 478,376 in 1901, giving a density of 1,123 persons per square mile. It is the most populous *tāluk*

in the District, and the density is greater than in any other in the Presidency. The land revenue demand amounted in 1903-4 to Rs. 5,19,000. The head-quarters are at the seaport of PONNĀNI (population, 10,562), situated at the mouth of the river of the same name. In comparison with the other *tāluks* of the District, Ponnāni is flat and uninteresting, especially along the coast. Inland, however, are some small ranges of low hills, clothed with scrub or rough grass; and between these, as usual in Malabar, wind green rice-fields fringed with groves of trees.

Cochin Tāluk.—Coast subdivision and *tāluk* in the south of Malabar District, Madras, lying between 9° 58′ N. and 76° 14′ E., with an area of 2 square miles. It contains one *amsam*, or parish, and is surrounded on all sides but the west by the Native State of Cochin. The population increased from 23,715 in 1891 to 25,859 in 1901. The land revenue demand amounted in 1903-4 to Rs. 20,000. The head-quarters are at the seaport of COCHIN (population, 19,274). The villages of ANJENGO and TANGASSERI were treated, for administrative purposes, as portions of the Cochin *tāluk* up to 1906, when they were formed into a new District of Anjengo under the control of the Resident in Travancore and Cochin.

Laccadive Islands (*Laksha dīvi*, 'the hundred thousand isles').—A group of coral atolls lying off the Malabar coast in the Madras Presidency, between 8° and 14° N. and 71° 40′ and 74° E. The nearest, Androth, is about 140 miles from the shore. The five northern islands, specifically known as the AMINDĪVI ISLANDS, are attached to the District of South Kanara. The remainder, sometimes called the Cannanore Islands, belong to Malabar District. They comprise Androth (population in 1891, 2,999; and in 1901, 2,441), Kavaratti (2,021 and 1,959), Agatti (1,183 and 1,215), Kalpeni (1,236 and 1,562), and MINICOY (3,198 and 3,097), all of which are between 1 and 2 square miles in area, and also Suheli and Pitti, which are uninhabited. There are eight other smaller dependent islets. Minicoy lies 100 miles south of the others and belongs ethnically and geographically to the Maldives, though politically it is attached to the Malabar group.

The conformation of all the islands is almost identical. They are crescent-shaped banks, not more than 10 or 15 feet above sea-level, lying along the eastern arc of an oval coral reef which stretches from north to south for 1 to 6 miles in length by under a mile in breadth. The western arc of the reef is a line of coral rocks, visible only at low water, with one or more

outlets to the open sea. Inside the reef is a shallow lagoon, large enough to act as a harbour for the native craft, and so sheltered by the reef that even in the worst weather coco-nut fibre can be soaked in it without danger of being washed away. Outside is a gradually sloping bank of dead coral, which varies from 100 yards to three-quarters of a mile in width, and ends abruptly in a precipice, at which soundings drop suddenly from 20 fathoms to over 200. It seems probable that these atolls have been formed on the summits of a mountain range, that they first rose to the surface in the form of shallow oval basins, and that under the protection of the reef the eastern rim gradually developed towards the centre, forming the island. This process of development towards the centre of the lagoon is still going on in some of the islands; while in Androth it is practically finished and no lagoon is left.

The superficial geological structure of the islands is as follows:—

'Beneath a thin layer of vegetable humus there is fine coral sand; a few feet below this comes a compact crust of fine conglomerate that looks like coarse oolitic limestone with embedded bits of shell; beneath the crust of coral-stone, which —as it is easy to cut and becomes hard when exposed to the air—makes a good building stone, there is another layer of fine sand, and then at a depth of about 6 feet from the surface the ground water is tapped.'

Wells and pits for soaking coir are thus easily made, and are plentiful on all the islands. The water in them is good, though slightly brackish. It rises and falls with the tide. The surface soil of coral-sand or loose coral-stones is naturally so barren that there is little spontaneous vegetation in most of the islands; but the conditions are especially favourable to the growth of the coco-nut palm, which is the staple product of all of them. Both the tree and the nut are smaller than those of the mainland, but the tree bears much more quickly, in some cases within two years. In most of the islands the coral substratum has been quarried out in patches and the damp subsoil of sand laid bare for cultivation. These patches of arable land, which are known as *tottam* or garden, are used for raising *rāgi*, millet, plantains, yams, and other vegetables. No rice is grown, and the islands are entirely dependent for it on the mainland. Limes and jack-trees flourish on all the islands, and a few areca palms on the more fertile. An attempt to grow casuarina for firewood was made in 1893, but it was a failure. Androth, which is the most fertile of the islands, contains about 100 acres of *tottam*, while Minicoy is

practically monopolized by the coco-nut. The annual rainfall averages 50 inches.

There are cattle and goats on all the inhabited islands, though very few in Minicoy, and many fowls and cats. Rats (*Mus rufescens*) abound and do much damage to the coco-nut trees. The Government has tried various remedies, such as the importation of snakes, mongooses, and owls, to get rid of the pest, but with little effect; and the numbers are only kept down by the native institution of the koot (*kūttam*), or periodical rat-hunt, in which the whole male population is forced to join. Turtles and the sea-slug (*Holothuria*), originally a valuable article of commerce, are plentiful; corals and shells of all kinds, from the cowrie to the king conch, are found; the lagoons are full of fish of every kind and colour; while in the open water sharks, porpoises, and *mās* or bonito (*Thynnus pelamys*) occur. There are no land-birds on the islands except tits, golden plovers, and a few specimens of the ubiquitous crow. The heron, peregrine, and kestrel are occasional visitors. Of sea-birds the commonest are turnstones, sand-pipers, and many varieties of tern, but no gulls. Insects are few, but the mosquito abounds in Minicoy, and most of the inhabitants use mosquito curtains.

Tradition assigns the first settlement of the islands to a shipwrecked party of Malayālis who were on their way to bring back king Cheramān Perumāl from Mecca in the ninth century; and the similarity of the language and customs of the islands to those of the coast leave no doubt that, with the exception of Minicoy, they were originally colonized by Hindus from Malabar. These are said to have been converted to Islām in the thirteenth century. The colonists acknowledged the supremacy of the Kolattiri Rājā, with whose dominions they carried on most of their trade; but their government was practically independent until the rise of the family of the Alī Rājā of CANNANORE, the chief admiral of the Kolattiri Rājā, to whom the islands were given by the latter in the sixteenth century as an estate. The Alī Rājās continued to rule over them till 1791, when they fell to the British with the conquest of Cannanore. After long discussion, a settlement was made with the Bībī of Cannanore in 1796, by which she agreed to pay an annual *peshkash* for the Laccadives and her property at Cannanore, retaining the administration of the former; and this settlement continues in force to the present day, though the islands are now administered by the British Government, having been sequestered for arrears of revenue in 1875.

The people are all Muhammadans. In habits and customs they resemble the Māppillas of North Malabar, except that the women hold a more important position, and are not veiled or secluded. They follow the Marumakkattāyam system of inheritance (i.e. succession in the female line). Their language is Malayālam, but in writing it they use the Arabic characters. They are divided into three main castes: Karnavans or Koyas, the aristocracy, who claim descent from Nambūdris and Nāyars, and originally monopolized land- and boat-owning; Mālumis or Urukkārs, the sailor caste, who sailed the Karnavans' boats, and were allowed small holdings of land on various conditions of service on their lords' lands and in their boats; and Melacheris or climbers, the serfs, whose duty was to pick coco-nuts, till their lords' lands, row the boats, and so forth. In Minicoy both the people and their customs differ from those of the other islands.

The population of the islands has remained fairly stationary. In 1845 it was estimated at 7,700 for the four northern islands, and in 1901 it was 7,180; but individual islands have experienced great fluctuations. In the great cyclone of 1847, 300 were killed in Androth and 500 in Kalpeni, while in 1894 nearly 1,000 persons are said to have died from cholera in Androth. Education makes slow progress. Out of 10,274 persons, only 461 were returned as literate in 1901; of these 51 were females. The chief industries are the preparation and exportation of coir fibre, the manufacture being done by the women, and fishing. Besides coir, quantities of coco-nuts, copra (dried coco-nut kernels), tortoise-shell, and cowries are exported to the mainland in exchange for rice. The original organization of society was patriarchal. The Alī Rājā governed by means of agents (*kāryakārs*), who were assisted by heads of families. At present there is an Amīn on each island, who is appointed by the Collector of Malabar, and is responsible for all details of administration.

The revenue is derived from the Government monopoly of the trade in coir, cowries, tortoise-shell, and ambergris, of which the first is the most important. During the last twenty years the average out-turn of coir fibre has been about 1,400 candies of 560 lb. Since the sequestration of the islands in 1875, the receipts have averaged Rs. 56,820, and the expenditure Rs. 47,460.

Angādipuram ('market town').—Village in Malabar District, Madras, situated in 10° 59′ N. and 76° 15′ E. It is the head-quarters of the Walavanād *tāluk* and of a District Munsif

and a stationary sub-magistrate. Population (1901), 4,500. The place has an important market, and is notable for its temple, a building of great sanctity, and as having been (in 1849) the scene of one of the most desperate of all the fights with the Māppilla fanatics.

Anjengo.—British village within the limits of the State of Travancore, on the Arabian Sea, situated in 8° 40′ N. and 76° 45′ E., about 72 miles north of Cape Comorin. Until 1906 it was administered as part of the Cochin *tāluk* of Malabar District, Madras; but in that year a new District of Anjengo was constituted, including also TANGASSERI, and placed under the administrative control of the Resident in Travancore and Cochin. Anjengo itself is now little more than a fishing village, but it was one of the earliest English settlements in India and once of considerable importance. In 1684 the East India Company obtained permission from the Rānī of Attingal to occupy the site; and a factory and fort were built in 1695. In 1731 the area of the settlement was increased by the grant of certain gardens, which were handed over to the Company by the Rājā of Travancore and Rānī of Attingal, in compensation for the murder of the Chief of the factory and ten others, when on a visit to the Rānī in 1721. The Company hoped that the advantages of the position as a centre for trade in pepper, coco-nut fibre, and calico would outweigh the defects of the port, and for some time the factory prospered, and the Factor was Second in Council in Bombay. During the Carnatic Wars Anjengo was used as a dépôt for military stores, and was the first signalling station for ships from England, but by 1792 it had altogether declined. It contains the ruins of a fort and an old Roman Catholic church, in which are some interesting oil paintings. It was the birthplace (1728) of Robert Orme, the historian, son of a Chief of the factory, and the home of Sterne's friend Eliza Draper. The total area is about 250 acres. In 1901 the population numbered 3,084, of whom half were Christians.

Attapādi Valley ('valley of leeches').—A tract in the Walavanād *tāluk* of Malabar District, Madras, lying between 10° 54′ and 11° 14′ N. and 76° 27′ and 76° 48′ E. It is about 250 square miles in extent, and lies behind the ridge of Ghāts which stretches from the KUNDAHS south-west to the Pālghāt Gap. The valley contains the source of the BHAVĀNI river and is mainly covered with thick forests, though grain is cultivated in parts by the Irulas who inhabit it. It is very feverish for most of the year.

Badagara ('north bank')—Town in the Kurumbranād *tāluk* of Malabar District, Madras, situated in 11° 36′ N. and 75° 36′ E., on the sea-coast, at the northern extremity of the Elattūr-Badagara backwater, and on the trunk road and the railway from Calicut to Cannanore. Population (1901), 11,319. The value of the imports by sea in 1903–4 was 9 lakhs; of the exports, 34 lakhs. The former consist chiefly of rice and salt; the latter of coco-nuts, copra, pepper, and timber. Badagara is a busy town, and the head-quarters of the *tāluk* and of a sub-magistrate and a District Munsif.

Beypore River.—River of Western India, flowing into the Arabian Sea in 11° 10′ N. and 75° 50′ E., and the most important of the rivers in the south of Malabar District, Madras. It is fed by numerous streams which drain the NILAMBŪR Valley, the chief of which are the Ponpula, or 'gold river,' the Cholayar, and the Karimpula. They unite above Nilambūr, and the river flows through the north of Ernād, forming the boundary of that *tāluk*. It is about 90 miles in length, and navigable at all seasons as far as Mambāt at the foot of the Vāvūl range; in the rains small boats go up beyond Nilambūr, and timber is floated down in large quantities from the forests above. Near its mouth the river is connected by narrow channels with Kallāyi, the chief timber dépôt of the District, and with CALICUT by the CONOLLY CANAL. The bar at the mouth has always 12 feet of water over it, and at high tides from 16 to 18 feet.

Beypore Village.—Village in the Calicut *tāluk* of Malabar District, Madras, situated in 11° 11′ N. and 75° 49′ E., near the mouth of the river of the same name, on its right bank. Many attempts have been made to utilize the natural advantages of the position, but not with much success. Saw-mills were opened in 1797, a canvas factory in 1805, ironworks in 1848, and later a shipbuilding yard; but all failed. For some years it was the terminus of the Madras Railway on the west coast. Population (1901), 1,500. The value of trade in 1903–4 was: imports, 2 lakhs; exports, 9 lakhs.

Calicut City.—Head-quarters of the *tāluk* of the same name, and also of Malabar District, Madras, situated in 11° 15′ N. and 75° 47′ E., on the Madras Railway, 414 miles from Madras City. It is a picturesque place, the streets winding through continuous groves of palms and other tropical vegetation. In addition to the various public buildings and institutions usual in a District head-quarters, it contains a branch of the Bank of Madras, and a Lunatic Asylum with accommodation

for 135 persons. The chief suburbs are at West Hill, 3 miles north of the old town, where are the barracks of the British infantry detachment and the Collector's house, both on small hills; and at Kallāyi, the centre of the timber traffic at the mouth of the Kallāyi river.

Calicut is the fourth largest city in the Presidency, and in 1901 had a population of 76,981 (42,744 Hindus, 30,158 Muhammadans, and 4,007 Christians). In 1871 its inhabitants numbered 47,962; in 1881, 57,085; and in 1891, 66,078, so that it is a growing place. The rate of increase during the last decade was as high as 16 per cent. The climate is on the whole healthy, though relaxing; but the want of a drainage and water-supply system renders the crowded quarters of the town insanitary. The city was constituted a municipality in 1869. The income and expenditure during the decade 1890–1900 averaged Rs. 66,000 and Rs. 63,000 respectively. In 1903–4 the income was Rs. 83,000 (mainly derived from the taxes on houses, land, and professions), and the expenditure was Rs. 81,000.

The vernacular form of Calicut is Kolikod, which means 'cock-fort'; and the tradition regarding its foundation is that when Cheramān Perumāl, the last of the kings of Malabar, retired to Mecca in the ninth century and divided his kingdom among his chiefs, he gave to the Zamorin of Calicut as much land as a cock crowing from Talli temple could be heard over. The Zamorins, with the help of Arab traders settled at Beypore, soon extended their powers and made the town the centre of a dominion extending from Tikkodi to CHETWAI. The Arab writers of the thirteenth century describe Calicut as one of the great ports of the west coast, full of magnificent buildings, and noted for the security to trade afforded by the power of the Zamorin and the justice with which he treated foreign settlers. In the fifteenth century the place seems to have been the most important town in Malabar. It was the first port of India visited by Europeans, and gave its name to calico, one of the chief articles of the early trade; but, owing to the opposition of the Arab traders, the European settlements here were not so important as those at COCHIN and CANNANORE. The Portuguese adventurer Covilham was the first European to visit Calicut (in 1486); but trade only began with the arrival of Vasco da Gama in 1498. A factory was established, but Da Gama was badly treated by the Zamorin. Two years later Cabral established a factory of seventy Portuguese, which was immediately destroyed by the Māppillas, and

most of the inmates murdered. In revenge the town was bombarded, and the port was then left alone by the Portuguese for some years. In 1510 Albuquerque attacked Calicut at the instigation of the Rājā of Cochin, but was repulsed. A year later the Zamorin allowed the Portuguese to build a fort on the north bank of the Kallāyi river; but he continued secretly hostile to their trade, the fort was abandoned in 1525, and the Portuguese did not again attempt a settlement at Calicut itself.

The English connexion with the town dates from 1615, when Captain Keeling arrived with three ships and concluded a treaty with the Zamorin; but no settlement was established till 1664, when a trading agreement was made with the Zamorin by the East India Company. The Zamorin, however, gave little encouragement to the Company, and it was not until 1759 that they were allowed to tile their factory. The French settlement dates from 1698. During the wars with France it thrice came into the possession of the English, but was finally restored to France in 1819. It at present consists of about 6 acres of ground, called the Loge, near the sea-shore south of the pier. The Danish Government established a factory at Calicut in 1752. It was partially destroyed in 1784 and soon afterwards incorporated in the British settlement. The Dutch never had any station at the place.

During the Mysore Wars the town suffered severely, and was twice pillaged by the Muhammadan armies, in 1773 and 1788. On the latter occasion Tipū Sultān made a determined effort to establish a rival capital at FEROKH on the south bank of the Beypore river, but the attempt failed. In 1790 Calicut was occupied by the British in their operations against Tipū, and by the Treaty of Seringapatam in 1792 it finally passed under the dominion of the Company.

Calicut now ranks second among the ports of Malabar and fourth among those in the Presidency. During the five years ending 1902–3 the value of its imports averaged 72½ lakhs, and of its exports 132 lakhs. The corresponding figures for 1903–4 were 57½ lakhs and 136 lakhs. Grain and salt form the bulk of the imports, while one-fourth of the exports consist of coffee. The town contains a steam spinning mill, established in 1883, with an annual out-turn of 550 tons of cotton yarn; a steam manure factory, which produces every year about 1,950 tons; and a steam saw-mill in the suburb of Kallāyi, at which timber to the value of 2 lakhs is sawn annually. There are also steam tile-works and coffee-curing works and a steam oil-mill. The chief temple of the town is held in much repute.

Cannanore.—Head-quarters of the Chirakkal *tāluk* of Malabar District, Madras, situated in 11° 52′ N. and 75° 22′ E., in a shallow bay of the Arabian Sea, 470 miles by rail from Madras City. Besides the usual public offices the town contains a branch of the Basel German Mission, with a mercantile establishment where various cotton fabrics are manufactured, and a Central jail with accommodation for 865 males and 31 females.

Cannanore was once the capital of the Kolattiri Rājā, the chief rival of the Zamorin, and became an important emporium of trade with Persia and Arabia during the twelfth and thirteenth centuries, from which time dates the rise of the family of the Alī Rājās, or Sea Kings, of Cannanore. Their origin is uncertain; but tradition assigns the foundation of the family to a Nāyar minister of the Kolattiri Rājā, who was converted to Islām about the beginning of the twelfth century. Towards the end of the century the family appears to have obtained the port and town of Old Cannanore as a grant from the Kolattiri Rājā. The Alī Rājā became his chief admiral and the head of the Cannanore Māppillas; and his power gradually increased till by the eighteenth century he was practically independent of his suzerain and was able to put 25,000 men in the field.

Cannanore was one of the earliest Portuguese settlements. In 1498 Vasco da Gama touched there, by invitation of the Kolattiri Rājā, on his way home from Calicut. Three years later Cabral founded a factory; and in 1502 Da Gama, on his second voyage to India, concluded a treaty with the Rājā and left 200 Portuguese in Cannanore. The factory continued to flourish, and in 1505 Almeyda was allowed to build a fort. In the next year he won a great naval victory in the Cannanore bay over the Zamorin and his Māppillas, which finally established the Portuguese naval supremacy. The fort and factory continued in possession of the Portuguese till they were conquered by the Dutch in the middle of the seventeenth century. The Dutch held the fort till 1771, when they sold it to the Alī Rājā, whose power had considerably increased during Haidar Alī's first invasion. In 1783 the fort was taken by the British, as the Bībī of Cannanore had detained 250 British soldiers on their way to join the forces against Tipū; but in the next year the Bībī entered into a treaty with the British and the fort was restored to her. Finally, in 1790, owing to the unsatisfactory behaviour of the Bībī, who had throughout secretly favoured the Mysore Sultān, Cannanore was again besieged and the Bībī made an unconditional surrender. Cannanore then became

the military head-quarters of the British on the west coast, and continued to be so till 1887, when the head-quarters was transferred to the Nīlgiris. A settlement was made in 1796 with the Bībī, who agreed to pay Rs. 15,000 per annum as the assessment 'on her houses, *parambas*, &c., in and near Cannanore, and on her trade and *janmam* property in the LACCADIVE ISLANDS.' The settlement appears to have been similar to the temporary settlements for the collection of revenue made with the other Malabar Rājās, which were subsequently superseded by the *ryotwāri* system; but the settlement with the Bībī has continued in force till the present time.

Cannanore has lost a good deal of its importance as a trade centre. It now ranks fourth among the ports of Malabar, the value of its imports in 1903-4 being 25 lakhs and of its exports 15 lakhs. Pepper, salt fish, and cotton fabrics are the chief exports, and rice and cotton yarn the chief imports. It has also suffered from the decline of its importance as a military station, and the many untenanted bungalows are a melancholy reminder of departed prosperity. The south-west line of the Madras Railway is now being extended to South Kanara, via Cannanore. The population in 1901 was 27,811, including 11,711 Hindus, 12,893 Muhammadans, and 3,180 Christians. The town was made a municipality in 1870. The income during the decade 1890-1900 averaged Rs. 29,000, and the expenditure Rs. 28,000. In 1903-4 they were Rs. 38,000 and Rs. 37,000 respectively, the chief income being from the taxes on houses and land.

Chetwai.—Village in the Ponnāni *tāluk* of Malabar District, Madras, situated in 10° 32′ N. and 76° 3′ E., in the *amsam* (parish) of Vadanapalli. Population (1901), 3,226. It was formerly the terminus of the line of backwater communication extending to Cochin and Travancore, but is of little importance now that communication by water has been opened up to Ponnāni. In 1717 the Dutch took Chetwai from the Zamorin, built a fort, and made it the capital of their province of Pappinivattam. In 1776 the fort was captured by Haidar Alī. Chetwai passed into British possession in 1790 and was leased to the Cochin Rājā till 1805, when it came under the Company's direct administration. Only the foundations of the fort now remain.

Chowghāt (*Chaughāt*).—Town in the Ponnāni *tāluk* of Malabar District, Madras, situated in 10° 35′ N. and 76° 2′ E. Population (1901), 7,426. It was formerly the head-quarters of a *tāluk* of the same name, which was amalgamated in 1860 with Kutnād and Betatnād into the present *tāluk* of Ponnāni.

It contains a District Munsif s court and a deputy-*tahsīldār's* office. At Palayūr to the east there is a Romo-Syrian church, noted as one of the seven original churches of Malabar. The town lies on a backwater, connected by canals with Ponnāni on the north and Travancore on the south.

Cochin Town.—Head-quarters of the subdivision and *tāluk* of British Cochin in Malabar District, Madras, situated in 9° 58′ N. and 76° 14′ E., on the coast within the limits of the Native State of Cochin. The northern portion of the town contains several streets of picturesque Dutch houses. The Anglican church, a plain massive building, was formerly the principal chapel of the Franciscan monastery. The age of the present structure is unknown, but inscriptions on the tombstones formerly in the floor of the nave prove the existence of a church on the spot before 1546. The backwater forms a magnificent natural harbour several square miles in area, with a deep-water basin of 7 to 9 fathoms near the mouth, which is kept from silting up by the heavy scour of the tides. The bar is at a distance of about a mile from the shore, and carries a maximum of 18 feet of water and a minimum of 12 feet. It has frequently been proposed to make the harbour available for ocean-going vessels by deepening the bar and running out breakwaters, but the expense and difficulties of the undertaking have hitherto prevented anything being done. At present steamers anchor about 2 miles off the shore in $5\frac{1}{2}$ to $6\frac{1}{2}$ fathoms.

The tradition is that Cochin was originally a small town on the bank of a small river (*Kocchi*, 'little'), and that it was swept away in 1341 by violent floods, which changed the whole face of the neighbourhood, forming the present harbour and the island of Vypīn. Tradition is supported by the fact that the erm Pudiya Veppu ('new deposit') is used to denote an era beginning in 1341; and there is no doubt that violent changes of this nature have frequently taken place along the coast. The present situation, commanding the entrance to a backwater which taps an immense area of rich country, soon attracted settlers, and Cochin became the successful rival of the port of Crānganūr.

The history of the present town begins with the arrival of the Portuguese. In 1500 Cabral came to Cochin after his attack on Calicut and met with a friendly reception from the Rājā, who is described as a reluctant vassal of the Zamorin. He returned to Portugal with a large cargo of pepper. In 1502 Vasco da Gama on his second voyage visited Cochin

and founded a factory. The next year Albuquerque arrived just in time to assist the Cochin Rājā, who was besieged by the Zamorin in Vypīn. The Zamorin was driven off and Albuquerque was permitted to build the Cochin fort, which he called Manuel Kotta. It was the first European fort built in India. In 1504 Pacheco, who was left in charge of the fort, was besieged by the Zamorin, but managed with some difficulty to repel the attack. The next year Almeyda arrived as viceroy, and rebuilt and enlarged the fort; and the Portuguese settlement does not appear to have been further troubled by the Zamorin. It became the chief of their settlements till the capture of Goa. In 1530 St. Francis Xavier came to Cochin and made many converts; in 1557 the church of Santa Cruz was consecrated as the cathedral of the Bishop of Cochin; and in 1577 the Society of Jesus published at Cochin the first book printed in India. The first Englishman to visit the town was Ralph Fitch, a traveller, who came by way of Bagdad and the Persian Gulf in 1585; but no English settlement was made till 1634, when the East India Company entered into a treaty which gave them free access to Portuguese ports. In the next year pepper was for the first time exported direct from the west coast to England. In 1663 the town and fort were captured by the Dutch, and the English retired to PONNĀNI. Under the Dutch the trade of Cochin increased considerably, and the customs are said to have amounted to Rs. 30,000 annually. The Dutch remodelled the town, building substantial European houses, quays, &c. They also converted the cathedral of Santa Cruz into a warehouse. Later on the fort was entirely rebuilt by Van Moens (1778). The cathedral, the fort, and many of the Dutch houses were subsequently blown up in 1806 by the English. On the conquest of Holland by the French in 1795 the East India Company was ordered to take possession of all the Dutch Colonies. The Dutch Governor, Vanspall, refused to surrender Cochin; and it was therefore besieged and captured by Major Petrie on October 20, 1795. The settlement was taken under English protection, but the Dutch were allowed to retain their laws and administration. The town was finally ceded to the Company under the Paris Convention of 1814.

Cochin is now the chief port of Malabar and the third in importance in the Madras Presidency. The value of its imports in 1903–4 was 82 lakhs, and of its exports 208 lakhs. During the last twenty years the trade of the port has trebled. The main exports are coco-nut oil and coir. Cochin monopo-

lizes the trade of the Presidency in the former and accounts for three-fourths of the trade in the latter. There is also an increasing export of tea from Travancore, its value in 1903-4 amounting to nearly 10 lakhs. Of the import trade more than half is in rice, from Burma and Bengal. The other chief articles of trade are pepper, timber, cotton twist and piece-goods, and kerosene oil. The population in 1901 was 19,274, of whom more than half were Christians, including a large Eurasian community. The income of the municipality, which was constituted in 1866, during the decade 1890-1900 averaged Rs. 20,300 and the expenditure Rs. 19,500. In 1903-4 the corresponding figures were Rs. 22,600 and Rs. 21,700, the main source of income being the taxes on houses and land. The climate is very moist and hot, and elephantiasis is common owing to the bad water. A scheme is now under consideration for bringing a supply from the Alwaye river, about 20 miles distant.

Conolly Canal.—Canal in the Calicut *tāluk* of Malabar District, Madras. The canal proper, which was constructed by Mr. Conolly, Collector in 1848, consists of a cutting about 3 miles in length running through Calicut city and connecting the Elattūr or Korapula and Kallāyi rivers. It thus forms part of the line of water communication from Badagara to Beypore.

Delly, Mount.—A prominent headland, 855 feet in height, on the coast of the Chirakkal *tāluk* of Malabar District, Madras, situated in 12° 2′ N. and 75° 11′ E. The correct name is Mount d'Eli (the Monte d'Ely of the Portuguese), from the ancient Malabar State of Ely or Heli, belonging to the Kolattiri Rājās, one of whose seats is near the northern slopes of the hill. The headland was a well-known landmark for mariners from the earliest times, and was the first Indian land sighted by Vasco da Gama. On the top is a small mosque, which is visited on certain holy days by large numbers of Māppillas. Creeks on either side made it almost an island; and its natural strength led to the construction of a fort, which was held in turn by Portuguese, Dutch, French, and English troops. Within sight of the hill more than one naval action has been fought. The bay to the south was formerly a regular resort of the pirates who infested these shores. A project to construct a harbour here was once set on foot, but was abandoned on account of the great expense involved.

Enamākkal Lake.—A shallow lake in the Ponnāni *tāluk* of Malabar District, Madras, lying between 10° 26′ and

10° 36′ N. and 76° 1′ and 76° 14′ E. It covers about 25 square miles, the major portion of which lies within the limits of Native Cochin, and is remarkable for the peculiar rice cultivation carried on in its bed. On the western side the lake is protected by a masonry dam from tidal influences. As soon as the dry weather has set in, artificial dams of bamboo and mud are raised to a height of 4 or 5 feet all over the lake, and the water is baled out of each partition by means of Persian wheels and steam pumps into channels, which form waterways high above the cultivation on either side. The soil of the lake is a very fine silt, and excellent rice crops are raised.

Ferokh.—Village in the Ernād *tāluk* of Malabar District, Madras, situated in 11° 12′ N. and 75° 49′ E., seven miles from Calicut, with a station on the Madras Railway. Population (1901), 3,500. It has an important weekly market and a tile factory. The chief trade is in timber, dried fish, and coconuts. In 1788 Tipū Sultān of Mysore made a determined but ineffectual attempt to raise the town to the position of a rival to Calicut.

Guruvāyūr.—Village in the Ponnāni *tāluk* of Malabar District, Madras, situated in 10° 35′ N. and 76° 3′ E., near Chowghāt. Population (1901), 3,393. It is notable for a large Hindu temple dedicated to Krishna, an inscription on the western *gopuram* (tower) of which shows that it was built in A.D. 1747. The wall of the shrine is elaborately painted with scenes from the Bhāgavatam. The temple is largely resorted to by the sick.

Kollangod.—Town in the Pālghāt *tāluk* of Malabar District, Madras, situated in 10° 37′ N. and 76° 41′ E. Population (1901), 9,800. It is the residence of the Nambidi of Kollangod, a landed proprietor who owns estates in the NELLIAMPATHI and ANAIMALAI HILLS, and it has a high school maintained by the Nambidi, and a weekly market. About 2 miles to the south is a large Hindu temple known by the name of Kachankurichi. Since the opening of the coffee estates in the Kollangod and Nelliampathi Hills the trade of the place has improved.

Korapula River.—River in Malabar District, Madras, 32 miles long, but shallow and of small commercial importance. It forms the boundary between North and South Malabar, a division still of importance in the social organization of the country. A Nāyar woman of North Malabar may not cross it.

Malappuram.—Town in the Ernād *tāluk* of Malabar District, Madras, situated in 11° 4′ N. and 76° 4′ E., 31 miles

south-east of Calicut, with which it is connected by a good road. Population (1901), 9,216. It is notable as the centre for many years of the Māppilla fanatical outbreaks. A detachment of European troops has been stationed here since 1873, and a special police force since 1885. The chief buildings are the churches (Protestant and Roman Catholic), the divisional officer and magistrate's court, the barracks, and the office of the Assistant Superintendent of police. A weekly market is held here.

Mānantoddy.—Village in the Wynaad *tāluk* of Malabar District, Madras, situated in 11° 49′ N. and 76° E. Population (1901), 2,000. It is the head-quarters of the divisional officer and *tahsīldār*, and of one of the two Forest officers of the District.

Manjeri.—Village in the Ernad *tāluk* of Malabar District, Madras, situated in 11° 7′ N. and 76° 7′ E. Population (1901), 4,000. It is the head-quarters of the *tahsīldār*, of a stationary sub-magistrate, and of a District Munsif, and is notable as the scene, in 1849, of one of the worst of the Māppilla outrages. The native troops sent against the rioters were routed and Ensign Wyse was killed. Another outbreak occurred here in 1896, when 99 fanatics were shot.

Minicoy.—An island attached to the District of Malabar in the Madras Presidency, lying in the Arabian Sea in 8° 18′ N. and 73° E. The lighthouse on the southern end was finished in 1885. Politically Minicoy appertains to the LACCADIVE group, but ethnologically and geographically it belongs to the Maldive Islands. It is 6 miles long by half a mile in breadth, and contains an area of about 1¾ square miles. Population (1901), 3,097. The physical characteristics of Minicoy are similar to those of the other Laccadive islands; but it contains no *tottam*, or garden cultivation, and the coco-nut trees are smaller, and there is more jungle interspersed among the plantations.

The people are probably of Singhalese extraction; they are darker and smaller than the other islanders; their language is Mahl, and they have a duodecimal numerical system. Though Muhammadans they are strictly monogamous, and the women take the lead in everything except navigation. A girl's consent has to be obtained before marriage, and she brings no dowry, but receives presents from the bridegroom. There are three subdivisions among the people, the Mālikhans, the Mālumis or Takkarus, and the Kohlus, which correspond to the three found on the other islands; but unlike the other islanders the

Minicoy people are all congregated in one village, which is divided into ten quarters or wards, in each of which the male and female populations are organized into separate clubs, each managed by its own head-man or head-woman and forming a unit for social and political purposes. The fishing-boats are very well made and the men are expert navigators. The islanders' chief trouble is the food-supply. All the rice has to be imported, and the trade is practically monopolized by the chief Mālikhans. The revenue is raised by a poll-tax and taxes on fishing-boats, &c., and not by a monopoly as in the other islands. Minicoy came into the possession of the Alī Rājā of Cannanore later than the other islands, probably not till the middle of the fifteenth century, as a gift from the Sultān of the Maldives, and this accounts for the difference in its administration[1].

Nilambūr.—Village in the Ernād *tāluk* of Malabar District, Madras, situated in 11° 17′ N. and 76° 14′ E., on the road from Manjeri to the Nīlgiris by the Karkūr *ghāt*. Population (1901), 2,700. It is the head-quarters of the District Forest officer, South Malabar. The Nilambūr Valley, which lies below the Camel's Hump range and the KUNDAHS and is drained by the Beypore river, contains the chief Government forest Reserves of South Malabar. They extend over more than 150 square miles on the slopes of the Kundahs and along the head-waters of the Karimpula river, and include 4,000 acres of excellent teak plantations started in 1843, the best logs of which fetch Rs. 2–8 per cubic foot in the market. There are also small plantations of rubber and mahogany. Gold-washing is still carried on to a very slight extent in the Upper Nilambūr valleys.

Pālghāt Town (*Pālkādu*, 'jungle of *pāl* trees').—Head-quarters of the subdivision and *tāluk* of the same name in Malabar District, Madras, situated in 10° 46′ N. and 76° 39′ E., 335 miles by rail from Madras City.

It lies on the main road from Malabar to Coimbatore and the east coast, in the curious gap in the Western Ghāts to which it gives its name; and its position as key to the west coast has always made it a place of importance both strategically and commercially. The Pālghāt fort is said to have existed from very ancient times, but little is known of the early history of the place. The Pālghāt Achchan was originally a tributary of the Zamorin, but he had become independent

[1] An interesting account of Minicoy (Marco Polo's 'Female island') is to be found in *Blackwood's Magazine* for February and March, 1889.

before the beginning of the eighteenth century. In 1757 he sent a deputation to Haidar Alī praying for help against an invasion threatened by the Zamorin. Haidar seized the opportunity of gaining such an important position as Pālghāt, and from that time to 1790 the fort was continually in the hands of the Mysore Sultāns or the British. It was first taken by the latter in 1768, when Colonel Wood captured it during his raid on Haidar Alī's fortresses, but it was retaken by Haidar a few months later. It was again captured by Colonel Fullarton in 1783, but abandoned next year. In 1790 it was finally captured by Colonel Stuart, and from that time was used as a base for the operations which ended in the storming of Seringapatam. The fort continued to be garrisoned till the middle of last century. It is now used for the *tāluk* office.

Pālghāt is the second largest town in Malabar, its population in 1901 being 44,177, of whom 37,285 were Hindus, 5,535 Musalmāns, and 1,342 Christians. It is the centre in Malabar of the Pattars or east-coast Brāhmans. It was made a municipality in 1869. The income and expenditure during the decade 1890–1900 averaged Rs. 62,000. In 1903–4 the income and expenditure were Rs. 80,000 and Rs. 79,900 respectively, the chief sources of income being the taxes on houses and land and the fees at the Victoria College. The Victoria College is one of the most successful second-grade colleges in the Presidency. It was founded as a school in 1866, and in 1888 was raised to the rank of a college and affiliated to the Madras University. In March, 1904, 488 students were on the rolls, of whom 138 were in the college department. There are also in the town religious and educational establishments belonging to the Roman Catholic and German missions. Pālghāt is the centre of the grain and miscellaneous trade between East Malabar and the adjoining Districts, and is a growing town. It contains two large bazars and a permanent market, in which a large trade is done in food-grains, tobacco, oil, and cloths, and in the grass mats for which the town is celebrated. There is also considerable trade in timber, which is brought down from the Pālghāt and Walavanād forests and exported by rail.

Ponnāni Town.—Head-quarters of the *tāluk* of the same name in Malabar District, Madras, situated in 10° 48′ N. and 75° 56′ E., at the mouth of the Ponnāni river. Population (1901), 10,562, mostly Māppillas.

It is a busy port, at which in 1903–4 the imports were

valued at 8 lakhs and the exports at 6 lakhs. Kerosene oil and salt are the chief imports, and coco-nuts, coir, and copra the chief exports. The Ponnāni *Tangal*, or Māppilla priest, is the chief of his sect, and the town is the centre of Muhammadan education on the coast, possessing a religious college. There are twenty-seven mosques, the principal of which, the Jamāth Masjid, is supposed to have been built in 1510. Besides the usual *tāluk* offices, the town contains a District Munsif's court [1].

The Ponnāni river, which is the longest in Malabar, rises in the Anaimalais and flows through the Pālghāt Gap due west, with a total course of about 150 miles. The bed of the stream, unlike that of most of the Malabar rivers, is shallow and usually contains little water; but during the rainy months it is navigable for a considerable distance inland, and is used for floating down timber from the hills near Pālghāt. At its mouth it is connected by backwater with Tirūr station on the north, and by canal with the Viyattil lake and the line of backwater which extends to Trivandrum on the south.

Quilāndi.—Seaport in the Kurumbranād *tāluk* of Malabar District, Madras, situated in 11° 27′ N. and 75° 42′ E. Population (1901), 5,870. It contains a sub-magistrate's and a District Munsif's court. It was close to this place that Vasco da Gama's fleet first cast anchor in 1498.

Taliparamba.—Town in the Chirakkal *tāluk* of Malabar District, Madras, situated in 12° 3′ N. and 75° 22′ E. Population (1901), 7,849. It contains a sub-magistrate's and District Munsif's court, and a brass-roofed temple which is one of the best in the District.

Tangasseri.—British village within the limits of the State of Travancore, situated in 8° 54′ N. and 76° 35′ E., adjoining Quilon. Until 1906 it was administered as part of the Cochin *tāluk* of Malabar District, Madras; but in that year it was transferred to the newly formed District of ANJENGO, and placed under the administrative control of the Resident in Travancore and Cochin. Total area, about 99 acres. Population (1901), 1,733. It was formerly a Portuguese and a Dutch settlement, and the inhabitants are mostly Roman Catholics. The collection of customs, port-dues, and other revenues in the place is farmed out to the Travancore Government. Civil

[1] Some English ships, under Captain Bonner, visited Ponnāni (Ponana) in 1619, and unsuccessfully attempted to purchase pepper from the Zamorin, who was then residing there. (W. Foster, *The English Factories in India*, p. 71).

jurisdiction over it still belongs to the District Munsif's court at Anjengo, under the District Court of South Malabar. The place has a resident sub-magistrate. A lighthouse stands on the sea-shore, with a light visible for 18 miles.

Tellicherry (*Talacheri*).—Head-quarters of the divisional officer and of the Kottayam *tāluk* of Malabar District, Madras, situated in 11° 45′ N. and 75° 29′ E., on the coast, 42 miles north of Calicut, and 457 miles by rail from Madras City. Besides the divisional and *tāluk* offices, the town contains the District Court of North Malabar, a church, a second-grade college founded by Mr. Brennen in 1862, a branch of the Bank of Madras, Roman Catholic and German mission establishments, and the old fort of the East India Company, now used for public offices.

Tellicherry does not appear to have been of any importance before the end of the seventeenth century, when the East India Company established a factory there with the object of commanding the pepper trade of North Malabar. The site, which had previously been occupied by a French mud fort, was granted by the Kolattiri Rājā in 1683 or 1684. In 1708 the Rājā was induced to build the Tellicherry fort, which he handed over to the Company for the protection of their factory; and during the first half of the eighteenth century the factors obtained from various Rājās many small grants of land with administrative privileges within them. They also successively secured the monopoly of the trade in pepper and cardamoms in Kolattanād, Kadattanād, and Kottayam. The factory thus became the principal British trading station on the west coast. The growth of its importance is illustrated by a treaty dated 1737, by which the Kolattiri Rājā agreed to be guided by the 'Sāhib English Company' in all his transactions with European nations, and by an agreement dated 1741, in which the Randattara district was mortgaged to the Company, who thereby became directly concerned in its administration. In the struggle with France, Tellicherry was the centre of the successful opposition offered to La Bourdonnais on the west coast; but during the early Mysore Wars the Company's operations were narrowed, and in 1766 the factory was reduced to a residency. In 1780 the town was besieged by Haidar's general Sardār Khān, but after a two years' struggle the siege was eventually raised in 1782 by the arrival of relief from Bombay under Major Abington. Tellicherry then became the base for the operations above the Ghāts, until it was superseded as a military post by Cannanore.

At present Tellicherry ranks as the third port of Malabar. The value of the imports in 1903-4 was 40 lakhs, and of the exports 103 lakhs. It is the chief outlet for the pepper and coffee grown on the Ghāts; but the traffic in both has declined during the decade, the value of the coffee exports having fallen from 66 lakhs in 1890-1 to 33 lakhs in 1900-1, and of the pepper from 29 lakhs to 25 lakhs. The trade in sandal-wood and coco-nut products has, however, increased. The imports consist chiefly of rice from Bengal and Burma, and coffee and pepper from neighbouring ports. The population of the town in 1901 was 27,883 (15,252 Hindus, 10,958 Muhammadans, and 1,671 Christians). The municipality was created in 1869. The income during the decade 1890-1900 averaged Rs. 44,000, and the expenditure nearly Rs. 45,000, of which 39 per cent. was laid out on education. The income and expenditure in 1903-4 were Rs. 50,900 and Rs. 51,000 respectively, the chief receipts being from the taxes on houses and lands and from school fees.

Tirūr.—Village in the Ponnāni *tāluk* of Malabar District, Madras, situated in 10° 53′ N. and 75° 56′ E. Population (1901), 4,444. It is a railway station and an important point on the canals of the District. Not far off is the village of Betat Pudiyangādi, which is the head-quarters of a sub-magistrate and a District Munsif. Their courts were built from the materials of the palace of the Betatnād Rājās destroyed by Tipū Sultān in 1784.

Tirūrangādi.—Town in the Ernād *tāluk* of Malabar District, Madras, situated in 11° 2′ N. and 75° 56′ E. Population (1901), 5,400. It is the head-quarters of a deputy-*tahsīldār* and a sub-magistrate, and has a weekly market. The place contains the tomb of Taramel Tangal, a noted Māppilla saint. In 1852 Saiyid Fazl, a descendant of the Tangal, was deported to Arabia for instigating Māppillas to rebel. The trade is in fish, coco-nuts, and areca-nuts.

Valarpattanam (or *Baliapatam*).—Village and river in the Chirakkal *tāluk* of Malabar District, Madras. The river is formed by two affluents rising in Coorg: namely, the Barapole and the Kalluhole. It is about 74 miles long, and is the most important in North Malabar, being navigable for a considerable distance. At its mouth, 3 miles below the village of Valarpattanam, where the great body of water discharged into the sea maintains a fairly deep channel over the bar, it is joined by the Taliparamba river, which flows along the coast from the north, and is in its turn connected by the Sultān's Canal with

the backwaters of South Kanara. The village of Valarpattanam is situated on the left bank of the river, in 11° 55′ N. and 75° 22′ E. Population (1901), 3,429. It possesses a thriving trade, chiefly in timber, which is floated down the river from the Ghāts. The Madras Railway crosses the river at Azhikal, a little above the village.

Vayittiri.—Village in the Wynaad *tāluk* of Malabar District, Madras, situated in 11° 33′ N. and 76° 2′ E. Population (1901), 2,658. Since the decline of planting in the north of the *tāluk*, it has become a centre of the coffee and tea-growing industry, and possesses a considerable European community. It contains a District Munsif's court and a sub-magistrate's court, a Roman Catholic chapel, and a Church of England place of worship. About a mile to the south-west lies the Pukkote lake, a natural sheet of water in a valley among low hills.

SOUTH KANARA DISTRICT

Kanara, South.—The more northerly of the two Districts on the west coast of the Madras Presidency, lying between 12° 7′ and 13° 59′ N. and 74° 34′ and 75° 45′ E., with an area of 4,021 square miles.

Boundaries, configuration, and hill and river systems.

The vernacular name *Kannada* ('the black country') really refers to the black soil of the Kanarese-speaking country in the Southern Deccan. Though a historical misnomer as applied to the western seaboard, it yet marks its long subjection to the Kanarese princes who held sway above the Western Ghāts. The District is bounded on the north by the Bombay Presidency; on the east by Mysore and Coorg; on the south by Coorg and Malabar; and on the west by the Arabian Sea. The scarp or watershed of the WESTERN GHĀTS forms a natural frontier on the east. Approaching in the extreme north within 6 miles of the sea, the main line of this range soon swerves abruptly eastward round the Kollūr Valley. Through this passes a road leading to the Honnār Magane, a small tract above the Ghāts belonging to South Kanara, but separated from it by Mysore territory. South of the valley rises the prominent sugar-loaf peak of Kodachādri, 4,411 feet; and thence, a precipitous cliff-like barrier with an average elevation of over 2,000 feet, the Ghāts run south-east to the KUDREMUKH, the highest peak in the District, 6,215 feet above sea-level. From this point they sweep east and south round the Uppinangadi *tāluk* to join the broken ranges of the Coorg and Malabar hills on the southern boundary of the District. South of the Kudremukh their character entirely changes. To the north few passes or prominent heights break the clearly defined watershed. On the south, deep valleys pierce the main line, flanked by massive heights such as Ballālrāyandurga (4,940 feet) and SUBRAHMANYA hill (5,626), while a profusion of forest-clad spurs and parallel ranges make the scenery as varied and picturesque as any in the Presidency. West of the Ghāts a broken laterite plateau slopes gradually towards the sea. The general aspect of the District has been well described as a flatness uniform but infinitely diversified. Much of the level surface is bare and treeless, and strewn with denuded granite

boulders; but numerous miniature hill ranges, well wooded save where stripped for firewood near the coast, and bold isolated crags rising abruptly from the plain, prevent monotony.

Local tradition states that South Kanara was part of the realm wrested by the mythic Parasu Rāma from the sea, and modern geology seems to confirm the view that it is an ancient sea-bed. Water is at any rate the element to which the District owes its distinctive characteristics. The monsoons have furrowed innumerable valleys in the laterite downs, and fertilized them with rich soil washed down by the streams. Valley opens upon valley in picturesque and diversified similarity, all converging at last into the main valleys through which the larger rivers of the District run. Along the backwater which these rivers form at the coast are found large level stretches of fertile rice and garden land. From the sea, indeed, the coast-line presents an endless stretch of coco-nut palms, broken only by some river mouth or fort-crowned promontory where the main level of the plateau runs sheer into the sea.

The rivers of the District, though numerous, are of no great length. Raging torrents in the monsoon, owing to the enormous volume of water they have to carry off, in the hot season they shrink to shallow channels in the centres of their beds. Rapid in their early course, they expand at the coast into shallow tidal lagoons. In the extreme south a number of rivers rising in the Malabar and Coorg hills form a succession of backwaters giving water communication with Malabar. At Kāsaragod the CHANDRAGIRI (Payaswani) flows into the sea past an old fort of the same name. The Netrāvati, with its affluent the Kumāradhāri, and the Gurpūr river, which have a common backwater and outlet at Mangalore, drain the greater part of the Mangalore and Uppinangadi *tāluks*. The Swarnanadī and the Sītānadī drain most of the Udipi *tāluk* and have a common outlet at the port of Hangārkatta. A picturesque and important backwater studded with fertile islands is formed to the north of Coondapoor town by a number of rivers draining much of the Coondapoor *tāluk*.

Geology. The geology of South Kanara has not yet been worked out. It is probable that in the main it consists of Archaean gneisses of the older sub-groups, possibly with representatives of the upper thinner-bedded more varied schists (Mercāra schists) and plutonic igneous rocks where the District touches Mysore and Coorg. Laterite and ordinary coastal alluvium are common in the low-lying parts.

Botany. As might be expected from the heavy rainfall (145 inches),

the flora of the District is exceedingly varied. The forests are both evergreen and deciduous, and the more important timber trees are mentioned under Forests below. Of fruit trees the coco and areca palms and the jack and mango are the most important. There are, however, few good grafted mango-trees, except in Mangalore town. The palmyra palm is found everywhere, and the cashew-tree is very common, especially near the coast. The bamboo grows luxuriantly. Considerable stretches of sandy soil along the coast have been planted with the casuarina. The betel vine, yams of various kinds, and plantains are raised in gardens, and turmeric and chillies as occasional crops. Flowers of numberless kinds grow in profusion, and in the monsoon every hollow and wall sprouts with ferns and creepers.

Fauna.

The fauna is varied. Leopards are found wherever there is cover, and annually destroy large numbers of cattle. The tiger is less common. On the Ghāts bison (*gaur*) and *sāmbar* attract sportsmen, and the black bear is also found, while elephants are fairly numerous in the extensive forests of the Uppinangadi *tāluk*. Deer and monkeys do considerable damage to cultivation adjoining the Ghāts. The jackal is ubiquitous. The handsome Malabar squirrel (*Sciurus indicus*) is common in the forests, and flying foxes have established several flourishing colonies. Among rarer animals are the flying squirrel, lemur, porcupine, and pangolin. A great variety of snakes exists, and the python and the hamadryad (*Ophiophagus elaps*) grow to an immense size. Crocodiles and otters are found in the larger streams. There is good fishing in the rivers, mahseer being numerous; but dynamiting, poisoning, and netting by the natives have done much to spoil it.

Climate and temperature.

The climate is characterized by excessive humidity, and is relaxing and debilitating to Europeans and people of sedentary habits. The average annual temperature at Mangalore is 81°. The heat is greatest in the inland parts of the District during the months of March, April, and May. Malarial fever is rife during the hot season and the breaks in the monsoon wherever there is thick jungle. From November to March a chilly land wind blows at night which, though it keeps the temperature low, is unhealthy and reputed especially dangerous to horses.

Rainfall.

The annual rainfall averages 145 inches. It is smallest on the coast line, ranging from 127 inches at Hosdrug in the south to 141 inches at Coondapoor in the north. The farther inland one goes the greater is the amount, Kārkala close to the Ghāts having an average of 189 inches. In 1897 the enormous

fall of 239 inches was recorded at this station. Of the total amount, more than 80 per cent. is received during the four months from June to September in the south-west monsoon. The rains may be said never to fail, and the District has only once known famine. Floods, however, are rare, as the rivers have usually cut themselves very deep channels.

History. Little is known of the early history of South Kanara. Inscriptions show that it was included in the kingdom of the Pallavas of Kānchi, the modern Conjeeveram in Chingleput District, whose earliest capital appears to have been Vātāpi or Bādāmi, in the Bijāpur District of Bombay. Its next rulers seem to have been the early Kadamba kings of Banavāsi, the Banaousir of the Greek geographer Ptolemy (second century A.D.), in North Kanara District. About the sixth century they were overthrown by the early Chālukyas, who had established themselves at Bādāmi, the old Pallava capital. In the middle of the eighth century these were expelled by the later Kadamba king Mayūravarma, who is said to have introduced Brāhmans for the first time into the District. His successors seem to have ruled the country as feudatories of the Rāshtrakūtas of Mālkhed in the present Nizām's Dominions, and of the Western Chālukyas of Kalyāni in the same State. About the twelfth century the District was overrun by the Hoysala Ballālas of Dorasamudra, the modern Halebīd in Mysore. But there were frequent contests between them and the Yādavas of Deogiri, the modern Daulatābād, in the Nizām's Dominions, until in the fourteenth century they were both overthrown by the Delhi Muhammadans, practically securing the independence of the local chiefs. In the first half of the fourteenth century the District passed under the Hindu kings of Vijayanagar. About this time Ibn Batūta, the Muhammadan traveller, passed through it and has left an interesting, though somewhat exaggerated, description of what he saw. During the next century the Portuguese made their first settlements on the west coast, and Vasco da Gama himself landed in 1498 on one of the islands off Udipi. After the battle of Tālikotā in 1565, in which the last Vijayanagar king was defeated by the united Muhammadans of the Deccan, the local Jain chiefs effected independence. But in the beginning of the next century almost all of them were subdued by the Lingāyat ruler, Venkatappa Naik, of Ikkeri, now a village in the Shimoga District of Mysore. During the next century and a half the Ikkeri chieftains, who had meanwhile removed their capital to Bednūr, the present Nagar in Mysore, continued masters of

the country, though most of the old Jain and Brāhman chiefs seem to have retained local independence.

British connexion with the District begins about 1737, when the factors at TELLICHERRY, taking advantage of a hostile move by the Bednūr Rājā, obtained commercial advantages, including a monopoly of all pepper and cardamoms in certain tracts. Haidar Alī, the Muhammadan usurper of the Mysore throne, after his conquest of Bednūr in 1763 took Mangalore and made it the base of his naval operations. The place was captured by the English in 1768, but, on Haidar's approach a few months later, was evacuated. On the outbreak of war with Haidar again in 1780, General Mathews, Commander-in-Chief of Bombay, landed opposite Coondapoor and took it. On his subsequent march north to Bednūr, he also took Hosangadi and the Haidargarh fort. Bednūr itself next fell, but the arrival of a large relieving force under Tipū, Haidar's son, forced Mathews to capitulate. Tipū then besieged Mangalore, which surrendered after a protracted struggle. During this war, Tipū, suspecting that the native Christians of the District were secretly aiding the English, deported large numbers of them to Mysore and forcibly converted them to Islām. During the final war with Tipū, which ended in his death at the fall of Seringapatam in 1799, the District suffered severely from the depredations of the Coorgs. By the Partition Treaty of the same year it fell to the Company. To the country thus acquired was added in 1834, on the annexation of Coorg, the portion of that province which had been ceded to the Coorg Rājā in 1799. In 1862 the country north of the Coondapoor *tāluk* was transferred to the Presidency of Bombay, leaving the District as it now stands to the administration of Madras.

Archaeology.

The chief objects of archaeological interest in South Kanara are its Jain remains, which are among the most remarkable in the Presidency. The most noteworthy are found at KĀRKALA, MŪDBIDRI, and YENŪR, in a part of the District long ruled by Jain chiefs, of whom the most important were the Bhairarasa Wodeyars of Kārkala. Under this family, which migrated from above the Ghāts, building in stone is supposed to have been introduced into this part of the west coast. Fergusson states that the architecture of the Jain temples has no resemblance to the Dravidian or other South Indian styles, but finds its nearest affinity in Nepāl and Tibet. There is no doubt that it is largely a reproduction of the architectural forms in wood used in the country from early times. The remains

are of three kinds. The first are the *bettas*, or walled enclosures containing colossal statues. There is one of these statues at Kārkala and another at Yenūr. The former is the larger, being 41 feet 5 inches high, and is also the more striking, as it stands on the top of a rocky hill overlooking a picturesque lake. They both have the traditional forms and lineaments of Buddha, but are named after Gomata Rāya, a forgotten and perhaps mythical Jain king. They are monolithic; and the method of their construction, whether they were hewn out of some boulder which stood on their sites, or whether they were sculptured elsewhere and removed to their present positions, is a mystery. A still larger statue, also said to be of Gomata Rāya, at Srāvana Belgola in Mysore is the only other example known. An inscription on the Kārkala statue states that it was erected in A.D. 1431. The second class of Jain remains are the *bastīs* or temples. These are found all over the District, the most famous group being at Mūdbidri, where there are eighteen of them. With plain but dignified exteriors, clearly showing their adaptation from styles suited to work in wood, and greatly resembling the architecture common in Nepāl in the reverse slope of the eaves above the veranda, nothing can exceed the richness and variety with which the interior is carved. The largest *bastī* at Mūdbidri is three-storeyed, resembling somewhat the pagodas of the Farther East, and contains about 1,000 pillars, those of the interior being all carved in the most varied and exuberant manner. The last variety of Jain antiquities are the *stambhas* or pillars. Though not peculiar to Jain architecture, the most graceful examples are found in connexion with the temples of that faith. The finest is at Haleangadi near Kārkala. It is 50 feet from base to capital, the shaft being monolithic and 33 feet in length, and the whole gracefully proportioned and beautifully adorned. BĀRKŪR, once the Jain capital of the region destroyed by Lingāyat fanatics in the seventeenth century, probably excelled the rest of the District in the number and beauty of its buildings, but is now a mere heap of ruins.

Serpent stones in groves and on platforms round the sacred fig-trees are numerous, and bear witness to the tree and serpent worship imposed by the influence of Jainism and Vaishnavism on the primitive demon and ancestor worship of the country. The Hindu temples are as a rule mean and unpretentious buildings, though many of them, such as that to Krishna at UDIPI and the shrines at SUBRAHMANYA, Kollūr, Sankaranārāyana, and Koteshwar, are of great antiquity and

sanctity. Forts are numerous, especially along the sea-coast, but of little importance archaeologically. That at BEKAL is the largest, and was formerly a stronghold of the Bednūr kings.

The people.

South Kanara is divided into the five *tāluks* of Coondapoor, Kāsaragod, Mangalore, Udipi, and Uppinangadi, and includes also the Amindīvi Islands in the Indian Ocean. The headquarters of the *tāluks* (except of Uppinangadi, which is at PUTTŪR) are at the places from which they are respectively named. The headman of the Amindīvis lives on the Amini island. Statistics of these areas, according to the Census of 1901, are appended:—

Tāluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Coondapoor	619	..	103	131,858	213	+ 0.2	7,748
Udipi	719	1	157	251,831	350	+ 3.9	15,496
Mangalore	679	1	243	334,294	492	+ 10.5	22,023
Amindīvi Islands	3	..	4	3,608	1,203	− 3.1	38
Uppinangadi	1,239	..	182	181,842	147	+ 9.9	7,818
Kāsaragod	762	..	114	231,280	304	+ 10.0	13,067
District total	4,021	2	803	1,134,713	282	+ 7.4	66,190

Much of South Kanara is hill and forest; and the density of the population is accordingly little above the average for the Presidency as a whole, fertile and free from famine though the District is. In the Uppinangadi *tāluk*, which lies close under the Ghāts, there are only 147 persons to the square mile. This is, however, on the main road to Mysore and Coorg, and the opportunities for trade thus afforded have caused the population here to increase faster than in the District as a whole.

The population of South Kanara in 1871 was 918,362; in 1881, 959,514; in 1891, 1,056,081; and in 1901, 1,134,713. It will be seen that the growth, though steady, is not remarkable. In the decade ending 1901 the rate of increase was about equal to the average for the Presidency, and during the last thirty years it has amounted to 24 per cent. There is considerable temporary emigration of labourers every year to the coffee estates of Coorg and Mysore, the total loss to the District in 1901 on the movement between it and these two areas being 14,000 and 40,000 persons respectively. On the other hand, South Kanara obtains very few immigrants from elsewhere. In 1901 less than 2 persons in every 100 found within

it had been born outside. As in the case of Malabar, this is largely due to its geographical isolation, and to the fact that the ways and customs of its people and its agricultural tenures differ much from those of neighbouring areas. The people are fonder of living in their own separate homesteads than in streets, and the District consequently has a smaller urban population than any other except Kurnool and the Nīlgiris, and includes only two towns. These are the municipality of MANGALORE, the District head-quarters (population, 44,108), and the town of UDIPI (8,041). Both are growing places. There are few villages of the kind usual on the east coast, the people living in scattered habitations.

Of the total population in 1901 Hindus numbered 914,163, or 81 per cent.; Musalmāns, 126,853, or 11 per cent.; Christians, 84,103, or 7 per cent.; Jains, 9,582, or 1 per cent. Musalmāns are proportionately more numerous than in any Districts except Malabar, Madras City, and Kurnool, and most of them are Māppillas, who are described in the article on MALABAR. Excluding the exceptional cases of Madras City and the Nīlgiris, Christians form a higher percentage of the people than in any District except Tinnevelly. They have increased at the rate of 45 per cent. during the last twenty years. Jains are more numerous than in any other District of Madras.

South Kanara is a polyglot District. Tulu, Malayālam, Kanarese, and Konkani are all largely spoken, being the vernaculars respectively of 44, 19, 19, and 13 per cent. of the population. Tulu is the language of the centre of the District, and is used more than any other tongue in the Mangalore, Udipi, and Uppinangadi *tāluks*; but in Mangalore a fifth of the people speak Konkani, a dialect of Marāthī, and in Udipi nearly a fourth speak Kanarese. In the Amindīvi Islands and in Kāsaragod, which latter adjoins Malabar, Malayālam is the prevailing vernacular. Most of those who are literate are literate in Kanarese. It is the official language of the District, and its rival, Tulu, has no written character, though it has occasionally been printed in Kanarese type.

Their castes and occupations.

The District contains proportionately more Brāhmans than any other in Madras, the caste numbering 110,000, or 12 per cent. of the Hindu population. The Hindus are made up of many elements, and the castes are in need of more careful study than they have yet received. They include 16,000 Telugus (9,000 of whom are Devānga or Sāle weavers); 82,000 members of Malayālam castes (most of whom are found in the Kāsaragod *tāluk*); 140,000 people of Marāthī or Konkani-

speaking communities; and 672,000 who talk Kanarese or Tulu. The three largest castes in the District are the Billavas (143,000), the Bants (118,000), and the Holeyas (118,000). The first two of these hardly occur elsewhere. They are respectively the toddy-drawers and the landholders of the community. The Holeyas are nearly all agricultural labourers by occupation.

Except the three Agencies in the north of the Presidency and South Arcot, South Kanara is more exclusively agricultural than any other District. As many as three-quarters of its people live by the land. Toddy-drawers are also proportionately more numerous than usual, though it must be remembered that many toddy-drawers by caste are agriculturists or field-labourers by occupation, while weavers and leather-workers form a smaller percentage of the people than is normally the case.

Out of the 84,103 Christians in the District in 1901, 83,779 were natives, more than 76,000 being Roman Catholics. Tradition avers that St. Thomas the Apostle visited the west coast in the first century. The present Roman Catholic community dates from the conquest of Mangalore by the Portuguese in 1526. Refugees from the Goanese territory driven out by Marāthā incursions, and settlers encouraged by the Bednūr kings, swelled the results of local conversion, so that by Tipū's time the native Christian community was estimated at 80,000 souls. But after the siege of Mangalore in 1784 Tipū deported great numbers of them, estimated at from 30,000 to 60,000, to Seringapatam, seized their property, and destroyed their churches. Many of them perished on the road and others were forcibly converted. On the fall of Seringapatam the survivors returned, and the community was soon again in a prosperous condition. The jurisdiction of Goa continued until 1837, when part of the community placed themselves under the Carmelite Vicar Apostolic of Verapoli in Travancore. After further vicissitudes the Jesuits took the place of the Carmelites in 1878. Mangalore is now the seat of a bishopric. Christian missions.

The only Protestant mission is the German Evangelical Mission of Basel, established at Mangalore in 1834. Its converts now number 5,913, mainly drawn from the poorest classes of the people, who find employment in the various industrial enterprises of the mission.

The agricultural methods of South Kanara are conditioned by its climate and geological peculiarities. As already mentioned, the District is a laterite plateau on a granite bed, General agricultural conditions.

bounded by the Ghāts, and worn and furrowed into countless valleys by the action of the monsoons. Much of the level plateau above the valleys produces nothing but thatching-grass or stunted scrub; but the numerous hollows are the scene of rich and varied cultivation, and the slopes above the fields are well wooded save where denuded to supply the fuel markets of Mangalore and other large towns.

The soil is as a rule a laterite loam, which is especially rich in the lower stretches of the valleys, where the best rice land is found. Large stretches of level ground occur along the coast, where the soil is generally of a sandy character but contains much fertilizing alluvial matter. To the north of the Chandragiri river this land grows excellent rice crops and bears a very heavy rent. South of that stream the soil is thinner and suited only to the commoner kinds of rice; but tobacco and vegetables are grown in considerable quantities, especially by the Māppillas.

Every valley has one or more water channels running through its centre or down either side. The best rice-fields lie as a rule on a level with these channels, which feed them during the whole of the first-crop season by small openings in their embankments that can be shut or opened as needed. After the first crop of rice has been harvested, dams are thrown across these channels at intervals; and by this means the level of the water is maintained, and a second, and even a third, crop of rice can be grown by direct flow from the channel, water being let into the plots as required. Very often a permanent dam is maintained above the cultivation to divert part of the water down the side channels. In the land immediately above these side channels a second crop of rice is grown by baling either with *picottahs* or, when the level admits, by hand-scoops (*kaidambe*) suspended from a cross-bar, or by a basket swung with ropes by two men. These lands are locally termed *majal*. Still higher up the slopes of the valley are other rice-fields, known as *bettu*, cut laboriously in terraces out of the hill-sides. These give only one crop of rice and, except where fed by some small jungle-stream, are entirely dependent on the rainfall; consequently their cultivation is somewhat precarious. The areca gardens are mostly situated in the sheltered nooks of the valleys in the more hilly parts of the District and in the recesses of the lower spurs and offshoots of the Ghāts, where the two essentials of shade and a perennial water-supply occur in combination. The finest coco-nut gardens are found in the sandy level stretches

adjoining the coast, especially along the fringes of the numerous backwaters.

A considerable quantity of black gram, horse-gram, and green gram is grown on the level land near the coast as a second crop, and on *majal* lands elsewhere if sufficient moisture is available. Sugar-cane is grown here and there beside the backwaters. Pepper has never recovered from the measures taken by Tipū to suppress its cultivation. In the south of the Kāsaragod *tāluk*, *kumri*, or shifting cultivation, is still carried on in the jungles.

The District is essentially *ryotwāri*, such *ināms* as exist being merely assignments of land revenue. Statistics of the various *tāluks* for 1903-4 are appended, areas being in square miles:— Chief agricultural statistics and principal crops.

Tāluk.	Area shown in accounts.	Forests.	Cultivable waste.	Cultivated.
Coondapoor	619	241	35	122
Udipi	719	159	60	134
Mangalore	679	60	122	195
Uppinangadi	1,239	547	91	162
Kāsaragod	762	63	61	377
District total	4,018	1,070	369	990

More than a fourth of the District consists of forest, nearly one-half is hilly and rocky land not available for cultivation, and the area actually cropped is less than a fifth of the total. Rice is by far the most important staple, the area under it (counting twice over that cropped twice) being 760 square miles. The garden area, 82 square miles, consists almost entirely of coco-nut and areca-nut plantations. These three crops practically monopolize the cultivation.

For agricultural purposes the ryots divide the year into three seasons, to correspond with the times of the three rice crops. These are *Kārtika* or *Yenel* (May–October), *Suggi* (October–January), and *Kolake* (January–April). It is doubtful if any District in the Presidency shows such a round of orderly and careful cultivation, and the increased out-turn from any theoretical improvements that might be made would probably be more than counterbalanced by the enhanced cost of cultivation. The choice and rotation of crops, the properties of various soils, the selection of seed and of seed-beds, the number of ploughings, the amount of manure, the distribution of water, Improvements in agricultural practice.

the regulation of all these and the countless other details of high farming, if based on no book knowledge, have been minutely adapted by centuries of experience and tradition to every variety of holding.

In the jungles which almost everywhere adjoin the cultivation the ryot finds an unfailing supply of manure for his fields, of timber for his agricultural implements, which he fashions at little expense to himself, and of fuel for domestic use. Consequently he has availed himself but little of the Land Improvements Loans Act. Under the name of *kumaki*, holders of *kadīm wargs*, or holdings formed before 1866, enjoy these privileges to the exclusion of others within 100 yards of the cultivation. No figures are available to show the extension of tillage. The absence of a survey, the connivence of the village and subordinate revenue officials, and the nature of the country have made encroachments particularly easy; and land has been formally applied for only where the prior right to it has been disputed, or to serve as a nucleus for future encroachment. Cultivation has increased steadily everywhere except immediately under the Ghāts, where the miseries and depopulation caused by the disturbances of the eighteenth century threw out of cultivation large tracts which have never recovered, owing to the prevalence of malaria and the demand for labour elsewhere.

Cattle. The chief drawback to agriculture in South Kanara is the want of a good indigenous breed of cattle. All the best draught and plough cattle have to be imported from Mysore, and even where well tended they are apt to deteriorate. The ordinary village cattle, owing to exposure to the heavy rains, indiscriminate breeding, bad housing, and a régime of six months' plenty and six months' want, are miserably undersized and weakly. The climate is equally unfavourable to sheep and horses, the number of which is small and kept up only by importation. A fair is held annually at Subrahmanya, to which about 50,000 head of cattle are brought from Mysore to meet local requirements.

Irrigation. The heavy rainfall and the rapid nature of the rivers do not admit of large irrigation reservoirs or permanent dams being formed, and as a result there are no Government irrigation works in the District. But the ryots have themselves most skilfully utilized the springs and streams by countless channels, feeders, and temporary dams. Along the coast, cultivation is largely assisted by shallow ponds scooped at little expense out of the sandy soil, and farther inland reservoirs of a more sub-

stantial nature are sometimes constructed at the valley heads. Many areca gardens are so supplied.

Forests. South Kanara is essentially a forest District. With the exception of the bare laterite plateaux and downs of the Kāsaragod and Mangalore *tāluks* and the spots where the hills near the coast have been stripped of their growth for timber, fuel, and manure, the country is everywhere richly wooded. The whole line of the Ghāts with their spurs and offshoots present an almost unbroken stretch of virgin forest, which finds its richest and most luxuriant development in the recesses of the Uppinangadi *tāluk*, where the most important and largest Reserves are found. The total forest area in the District is 662 square miles, and 408 square miles of 'reserved' land are also controlled by the Forest department. In the early years of the Company's administration the claims of Government to the forests and their prospective importance were alike overlooked; but the rights of the Crown began to be asserted from the year 1839 onwards, and during the last thirty years Reserves have been selected and a system of conservation introduced.

The destructive system of shifting cultivation locally known as *kumri* has been prohibited since 1860, except in a few small tracts where it is strictly regulated. Such regulation is a matter of the greatest importance to a District with an annual rainfall averaging over 140 inches, the seasonable distribution of which depends largely on the proper protection of its catchment area.

The most valuable timber trees are teak, poonspar (*Calophyllum elatum*), blackwood (*Dalbergia latifolia*), jack (*Artocarpus integrifolia*) and wild jack (*A. hirsuta*), *ventek* (*Lagerstroemia microcarpa*), *kirālbhog* (*Hopea parviflora*), *banapu* (*Terminalia tomentosa*), and *marva* (*T. paniculata*). But development must still be said to be in its infancy. In fact, the chief revenue is at present derived from items of minor produce, such as catechu, grazing fees, &c. The main obstacle is the want of good communications; but once this is overcome, whether by a system of light railways or otherwise, the South Kanara forests should be of the greatest value.

Minerals. A fine clay excellently adapted for pottery is found in various localities, especially along the banks of the Netrāvati, which supplies material for the Mangalore tile-works mentioned below. Gold and garnets are known to occur in one or two places, but the mineral resources of the District are as yet practically unexplored. The ordinary laterite rock, which is easily cut and hardens on exposure, forms the common building material.

Arts and manufactures.

The only large manufactures in South Kanara are the results of European enterprise. Tile-making was introduced by the Basel Mission, and this body has now two factories at Mangalore and another at Malpe near Udipi. At Mangalore one other European firm, Messrs. Morgan & Sons, and nine native merchants are engaged in the industry, and elsewhere in the District are two more native factories. The industry employs about 1,000 hands. The Basel Mission has also a large weaving establishment at Mangalore, and some of its employés have started small concerns elsewhere; but otherwise the weaving of the District is of the ordinary kind. The same may be said with reference to the work of the goldsmiths, blacksmiths, and other artisans. Four European and three native firms are engaged in coffee-curing. In 1903-4 coffee from above the Ghāts to the value of 41 lakhs was exported. Coir yarn is manufactured in considerable quantities in the Amindīvi Islands, where it forms a Government monopoly, and along the coast. On the coast, too, a considerable industry exists in fish-curing, which is done with duty-free salt in fourteen Government curing-yards. Most of the product is exported to Colombo, but large quantities are also sent inland. Sandal oil is distilled in the Udipi *tāluk* from sandal-wood brought down from Mysore.

Commerce.

The principal articles of export are coffee, tiles, coco-nut kernels (copra), rice, salted fish, spices, and wood. The tiles are exported to Bombay and to ports in the Presidency. The coffee is brought from Mysore and Coorg to be cured, and is exported chiefly to the United Kingdom and France. The coco-nut kernels go chiefly to Bombay, rice to Malabar and Goa, and salted fish to Colombo. Large quantities of areca-nuts are shipped to Bombay and Kāthiāwār. The wood exported is chiefly sandal brought from Mysore and Coorg. The chief imports are cotton piece-goods, grain, liquor, oil, copra, pulses, spices, sugar, salt, and salted fish, largely to meet local needs, but partly for re-export to Mysore and Coorg. The bulk of the trade is carried on at Mangalore (the commerce of which is referred to in the separate article upon the place); and Malpe, Hangārkatta, and Gangoli are the most important of the outports. The most prominent by far of the mercantile castes are the Māppillas, who are followed by Telugu traders, such as the Balijās and the Chettis. Konkanī Brāhmans, native Christians, and Rājāpuris also take a share. There are twenty weekly markets in the District under the control of the local boards.

Railways and roads.

The District has at present no railways, but the Azhikal-Mangalore extension of the Madras Railway, now under construction, will afford communication with Malabar and the rest of the Presidency. Its construction is estimated to cost 109 lakhs for a length of 78 miles. A line from Arsikere on the Southern Mahratta Railway to Mangalore has also been projected and surveyed.

The total length of metalled roads is 148 miles and of unmetalled roads 833 miles, all of which are maintained from Local funds. Avenues of trees have been planted along 467 miles. The main lines are the coast road from Kavoy to Shirūr; the roads leading to Mercāra through the Sampaji *ghāt* from Kāsaragod and Mangalore; and those from Mangalore through the Chārmādi *ghāt* to Mudugere *tāluk*, and through Kārkala and the Agumbe *ghāt* to the Koppa *tāluk* in Mysore. Lines running through the Kollūr, Hosangadi, Shirādi, and Bisale *ghāts* also afford access to Mysore, and the main routes are fed by numerous cross-roads. The tidal reaches of the rivers and the numerous backwaters furnish a cheap means of internal communication along the coast. In the monsoon communication by sea is entirely closed; but during the fair season, from the middle of September to the middle of May, steamers of the Bombay Steam Navigation Company call twice weekly at Mangalore and other ports in the District. Mangalore is also a port of call for steamers of the British India Company and other lines. Large numbers of coasting craft carry on a brisk trade.

Famine.

Owing to the abundant monsoons the District always produces more grain than is sufficient for its requirements. It is practically exempt from famine, and no relief has ever been needed except in the year 1812.

District subdivisions and staff.

For administrative purposes South Kanara is divided into three subdivisions. Coondapoor, comprising the Coondapoor and Udipi *tāluks*, is usually in charge of a Covenanted Civilian. Mangalore, corresponding to the *tāluk* of the same name (but including also the Amindīvi Islands), and Puttūr, comprising the Uppinangadi and Kāsaragod *tāluks*, are under Deputy-Collectors recruited in India. A *tahsīldār* and a stationary sub-magistrate are posted at the head-quarters of each *tāluk*, and deputy-*tahsīldārs* at Kārkala, Bantvāl, Beltangadi, and Hosdrug, besides a sub-magistrate for Mangalore town.

Civil justice and crime.

Civil justice is administered by a District Judge and a Subordinate Judge at Mangalore, and by District Munsifs at Mangalore, Kāsaragod, Udipi, Coondapoor, Puttūr, and Kārkala.

The Court of Session hears the more important criminal cases, but serious crime is not more than usually common, and there are no professional criminal tribes in the District. Offences under the Abkāri, Salt, and Forest Acts are numerous; and civil disputes are frequently made the ground of criminal charges, especially in connexion with land and inheritance, the majority of the Hindu castes in the District being governed by the Aliya Santāna law of inheritance, under which a man's heirs are not his own but his sister's sons.

Land revenue administration.

Little is known of the early revenue history of the District. Tradition gives one-sixth of the gross produce, estimated at first in unhusked and latterly in husked rice, as the share demanded by the government prior to the ascendancy of Vijayanagar. About 1336, in the time of Harihara, the first of the kings of that line, the land revenue system was revised. One-half of the gross produce was apportioned to the cultivator, one-quarter to the landlord, one-sixth to the government, and one-twelfth to the gods and to Brāhmans. This arrangement thinly disguised an addition of 50 per cent. to the land revenue; and the assumed share of the gods and Brāhmans, being collected by the government, was entirely at its disposal. In 1618 the Ikkeri Rājās of Bednūr imposed an additional assessment of 50 per cent. on all the District except the Mangalore *hobli*, and at a later date imposed a tax on fruit trees. These additions were permanently added to the standard revenue. Other additions were made from time to time, amounting in 1762, when Haidar conquered Kanara, to a further 25 per cent. of the standard revenue, but still not sufficient to affect seriously the prosperity of the District. Haidar cancelled the deductions previously allowed on waste lands and imposed other additions, so that at his death the extras exceeded the standard revenue. The further exactions and oppressions of Tipū were such that much land went out of cultivation, collections showed deficiencies ranging from 10 to 60 per cent., and the District was so impoverished that little land had any saleable value.

Major (afterwards Sir Thomas) Munro, the first Collector of the District, setting aside all merely nominal imposts and assessments on waste lands, imposed on Kanara and Sonda (the present Districts of North and South Kanara) a new settlement in 1799–1800. Some slight reductions were made in the following year. It worked smoothly for some time; then difficulty in the collections and signs of deterioration owing to over-assessment induced the Board of Revenue to order a revision, based on the average collections from each estate

since the province came under the British Government. This assessment, introduced in 1819–20, was till recently in force in South Kanara, with the exception of a portion of the Uppinangadi *tāluk* which was subsequently taken over from Coorg. Continued difficulty in realizing the demand, owing to low prices and riotous assemblages of the cultivators, who refused to pay their assessment, led to a Member of the Board of Revenue being deputed in 1831 to inquire into the state of the District. He reported that the disturbances were due to official intrigues, that the assessment was on the whole moderate, though low prices had caused some distress, and that where over-assessment existed it was due entirely to the unequal incidence of the settlement, aggravated by the frauds of the village accountants, who had complete control over the public records. In accordance with his views, some relief was granted in the settlement for 1833–4 to those estates which were over-assessed. The Board did not, however, regard these measures as satisfactory. Further correspondence confirmed the view that any attempt to base a redistribution of the assessment on the accounts then available was doomed to failure owing to their fallacious nature. The Board therefore expressed the opinion that the only remedy was a settlement based on a correct survey. This proposal involved a consideration of the question whether any pledge had been given for the fixity of the settlement of 1819–20. After further correspondence between the Collectors, the Board, and the Government, the question was dropped in 1851, the improvement in prices having meanwhile relieved the pressure of assessment on particular estates.

In 1880 the matter was again raised by the Government of India, in connexion with the general revision of settlements in the Presidency; and it was finally determined that the Government was in no way pledged to maintain the assessment unaltered, and that the survey and revision of settlement should be extended to Kanara in due course. A survey was begun in 1889 and settlement operations in October, 1894. A scheme was sanctioned for all the *tāluks* and has now (1906) been brought into operation. Under this the average assessment on 'dry' land is R. 0–9–7 per acre (maximum, Rs. 2; minimum, 2 annas); on 'wet' land Rs. 4–7–11 (maximum, Rs. 10, including charge for second crop; minimum, 12 annas); and on garden land Rs. 4–13–7 (maximum, Rs. 8; minimum, Rs. 2). The proposals anticipate an ultimate increase in the assessment of the District of Rs. 9,22,000, or 65 per cent., over the former revenue. The revenue from land and the

total revenue in recent years are given below, in thousands of rupees :—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	13,38	14,69	15,26	17,05
Total revenue . .	17.90	21,63	25.41	27,76

Local boards.

Outside the municipality of Mangalore, local affairs are managed by the District board and the three *tāluk* boards of Coondapoor, Mangalore, and Puttūr, the areas in charge of which correspond with the subdivisions of the same names. Their total expenditure in 1903–4 was Rs. 2,82,000, of which Rs. 1,57,000 was laid out on roads and buildings. The chief source of income is, as usual, the land cess. South Kanara contains none of the Unions which on the east coast control the affairs of many of the smaller towns.

Police and jails.

The police are in charge of a District Superintendent, whose head-quarters are at Mangalore. The force numbers 10 inspectors and 558 constables, and there are 50 police stations. Village police do not exist.

There is a District jail at Mangalore, and 8 subsidiary jails at the head-quarters of the *tahsīldārs* and their deputies have accommodation for 85 males and 35 females.

Education.

At the Census of 1901 South Kanara stood eleventh among the Districts of the Presidency in the literacy of its population, 5·8 per cent. (11·1 males and 0·9 females) being able to read and write. Education is most advanced in the Mangalore *tāluk*, and most backward in the hilly inland *tāluk* of Uppinangadi. In 1880–1 the number of pupils of both sexes under instruction in the District numbered 6,178; in 1890–1, 18,688; in 1900–1, 24,311; and in 1903–4, 27,684. On March 31, 1904, the number of educational institutions of all kinds in the District was 658, of which 502 were classed as public and 156 as private. The public institutions included 474 primary, 23 secondary, and 3 special schools, and 2 colleges. The girls in all of these numbered 4,107, besides 1,566 under instruction in elementary private schools Six of the public institutions were managed by the Educational department, 85 by local boards, and seven by the Mangalore municipality, while 278 were aided from public funds, and 126 were unaided but conformed to the rules of the department. Of the male population of school-going age in 1903–4, 21 per cent. were in the primary stage of instruction, and of the female population of the same age 4 per cent. Among Musalmāns the corresponding percentages were 30

and 6 respectively. Education, especially that of girls, is most advanced in the Christian community. Two schools provide for the education of Panchamas, or depressed castes, and are attended by 37 pupils. The two Art colleges are the St. Aloysius College, a first-grade aided institution, and the second-grade Government College, both at Mangalore. The former was established in 1880 by the Jesuit Fathers. The total expenditure on education in 1903-4 was Rs. 2,22,000, of which Rs. 77,000, or 35 per cent., was derived from fees, and 53 per cent. of the total was devoted to primary education.

Hospitals and dispensaries. The District possesses 8 hospitals and 11 dispensaries, with accommodation for 75 in-patients. In 1903 the number of cases treated was 135,000, including 1,600 in-patients, and 3,200 operations were performed. The expenditure was Rs. 38,000, which was mostly met from Local and municipal funds.

Vaccination. In 1903-4 the number of persons successfully vaccinated was 28,000, or 23 per mille of the population. Vaccination is compulsory only in the Mangalore municipality.

[J. Sturrock and H. A. Stuart, *District Manual*, 1894.]

Coondapoor Subdivision (*Kūndapūr*).—Subdivision of South Kanara District, Madras, consisting of the COONDAPOOR and UDIPI *tāluks*.

Coondapoor Tāluk.—Northernmost *tāluk* of South Kanara District, Madras, lying between 13° 29′ and 13° 59′ N. and 74° 34′ and 75° 4′ E., with an area of 619 square miles. The population in 1901 was 131,858, compared with 131,546 in 1891. It contains 103 villages, including COONDAPOOR (population, 3,984), the head-quarters. The demand for land revenue and cesses amounted in 1903-4 to Rs. 3,12,000. The Western Ghāts form the boundary of the *tāluk* on the east, approaching in the north to within 6 miles of the sea. Three rivers rising in this range drain the greater part, and flow into a common estuary to the north of Coondapoor village. These river valleys, the islands in the estuary, and the adjacent low-lying levels are singularly fertile, as is the alluvial plain along the coast, which in places extends 4 or 5 miles inland. Fine crops of rice and sugar-cane are grown, and the coco-nut plantations are very productive. The interior and hilly portions of the *tāluk* contain much thick jungle, malarial fever is rife and labour scanty, and the ryots are much less prosperous than on the coast. In the north of the *tāluk* the catechu-tree is common, and the manufacture of cutch carried on by the Kudubi caste is an important item of forest revenue.

Udipi Tāluk.—*Tāluk* in South Kanara District, Madras, lying between 13° 7′ and 13° 38′ N. and 74° 42′ and 75° 9′ E., with an area of 719 square miles. It contains one town, UDIPI (population, 8,041), the head-quarters, and 157 villages. The population in 1901 was 251,831, compared with 242,439 in 1891, showing an increase of 3.9 per cent. The demand for land revenue and cesses amounted in 1903–4 to Rs. 4,41,000. Rice and coco-nuts are the principal products, as in the rest of the District. There are some fine areca gardens in the vicinity of the Western Ghāts on its eastern boundary. The *tāluk* as a whole is exceedingly prosperous, the coast tract being exceptionally fertile. Coco-nut gardens fringing the backwaters and tidal reaches of the rivers are a feature of the country.

Mangalore Subdivision (*Mangalūru*).—Subdivision of South Kanara District, Madras, consisting of the MANGALORE *tāluk* and the AMINDĪVI ISLANDS.

Mangalore Tāluk.—*Tāluk* in the centre of South Kanara District, Madras, lying between 12° 48′ and 13° 13′ N. and 74° 47′ and 75° 17′ E., with an area of 679 square miles. It contains one municipality, MANGALORE (population, 44,108), the head-quarters, and 243 villages. The demand for land revenue and cesses amounted in 1903–4 to Rs. 5,82,000. The population was 334,294 in 1901, compared with 302,624 in 1891, showing an increase of 10·5 per cent. The density is high along the coast and in the fertile valleys of the Netrāvati and Gurpūr rivers, and averages 492 persons per square mile for the *tāluk* as a whole. The finest coco-nut gardens are, as usual, found along the backwaters, where also a considerable amount of sugar-cane is grown. The best areca gardens occur inland and near the Western Ghāts. Rice is the principal crop. Round Mangalore, near Bajpe and elsewhere, considerable quantities of 'dry' grains, chillies, turmeric, vegetables, and flowers are grown, chiefly by the native Christians. The laterite plateaux in this *tāluk* are very extensive, notably that round MŪDBIDRI, and many of the hills round Mangalore have been stripped bare to supply the local market for firewood; but its deep valleys and outstanding bluffs and crags, with the ever-present towering background of the Ghāts, render its scenery unsurpassed.

Amindīvi Islands.—These islands form the northern group of the Laccadives, and are attached to South Kanara District, Madras Presidency. There are five of them, four (with a total area of 3 square miles) being inhabited, and a number of isolated reefs. They lie at a distance of from 170 to 200 miles

from the mainland. Each is situated on a coral shoal with a lagoon on the west, and they nowhere rise to more than 10 or 15 feet above sea-level. The foundation of the soil is a stratum of coral from 1 to 1½ feet thick, beneath which loose wet sand is found. All the wells are formed by breaking through this crust and removing the sand underneath. The upper soil is loose coral-sand.

For more than two centuries these islands belonged to the principality of CANNANORE, but in 1786 the people revolted and transferred their allegiance to Mysore. When South Kanara was taken over by the Company in 1799, the islands were attached to that District, and a remission of Rs. 5,250 was conceded in compensation to the Bībī of Cannanore. They are now under the immediate charge of a headman (*monegar*), who is a third-class magistrate. He also adjudicates upon civil disputes, and his power to deal with offences against custom covers a wide field. He resides in the island of Amini and is assisted by *karānis* or accountants, *nādpāls* or watchmen, and *peons*. Family headmen also assist him in civil cases, sitting as a *panchāyat*. The population in 1901 was 3,608, or the same as it had been in 1844. In 1891 it was 3,722. Cholera epidemics are largely responsible for this stationary condition.

The people are all Musalmāns, but of Hindu descent, and their own traditions and their language, a corrupt Malayālam, point to their having come from Malabar. They largely follow the Malabar Marumakkattāyam law of descent. There is no seclusion of women, and monogamy is universal. The men as a rule are of fine physique, but eye diseases and rheumatism are common. The people are simple, peaceable, and contented, and serious crime is almost unknown. They only leave the islands to take coir over to the mainland, and to bring back the annual supplies of rice, salt, and other commodities. What education is sought is confined to learning the Korān by rote; the attempts of Government to impart elementary instruction to the island youths in Malayālam on modern lines have so far failed.

Almost the sole cultivation is that of the coco-nut palm, and the preparation of coco-fibre or coir is the chief industry. Most of it is prepared by the women. Coir is a Government monopoly and the only source of revenue. Government buys all of it at fixed rates and sells it in the open market. As the coir is partly paid for in rice at a fixed rate, the value of the revenue naturally fluctuates according to the market price of both articles. The accounts for 1903–4 showed a net revenue

of Rs. 2,387, but in this the *peshkash* paid to the Rājā of Cannanore (Rs. 5,250) is not taken into account.

Puttūr Subdivision.—Subdivision of South Kanara District, Madras, consisting of the UPPINANGADI and KĀSARAGOD *tāluks*.

Uppinangadi.—The only inland *tāluk* in South Kanara District, Madras, lying between 12° 27′ and 13° 11′ N. and 75° 9′ and 75° 45′ E., with an area of 1,239 square miles. The population in 1901 was 181,842, compared with 165,427 in 1891, showing an increase of 9·9 per cent. PUTTŪR (population, 3,999), the head-quarters, is also the chief place in the subdivision of that name. The number of villages is 182. The demand for land revenue and cesses amounted in 1903–4 to Rs. 2,31,000. The *tāluk* is bounded on the Mysore and Coorg frontiers by the Western Ghāts, the spurs and parallel ranges of which occupy a large portion of it, and much is under forest. The population, which mainly speaks Tulu, is consequently much scantier than in the rest of the District, numbering only 147 persons per square mile, compared with the District average of 282. Good teak and other timber trees are found, but the want of communications has greatly interfered with the working of the forests. Cardamoms are grown to some extent, the largest private cardamom jungle being at Neriya. There is much fertile land round Puttūr and in the river valleys, but a considerable extent of land is uncultivated close under the Ghāts. Malarial fever, which is very rife in the interior at certain seasons of the year, deters settlers, and much labour is annually attracted by the coffee estates of Mysore and Coorg. The chief crop is rice, as in the rest of the District, and there are also some fine areca gardens, those in the neighbourhood of Vittal being exceptionally valuable. The coco-nut palm, however, does not thrive nearly so well as on the coast. The KUDREMUKH and SUBRAHMANYA hills are the most prominent points of the Western Ghāts on the eastern boundary.

Kāsaragod Tāluk.—Southernmost *tāluk* of South Kanara District, Madras, lying between 12° 7′ and 12° 57′ N. and 74° 52′ and 75° 26′ E., with an area of 762 square miles. It contains 114 villages. The demand for land revenue and cesses amounted in 1903–4 to Rs. 2,42,000. The population in 1901 was 231,280, compared with 210,323 in 1891, showing an increase of 10 per cent. Much of the surface consists of a bare treeless plateau; but the valleys are deep, well-watered, and very fertile, and, especially in the northern half of the *tāluk*, admirably adapted for areca cultivation. The chief

products are rice, coco-nuts, and areca-nuts. In the coast villages in the south a considerable amount of tobacco is raised by the Māppilla cultivators. In eighteen survey villages adjoining Coorg and Malabar the shifting system of cultivation known as *kumri* is still carried on, the crop being usually a mixed one of hill rice, pulse, and cotton. The jungle on selected spaces on the hill slopes is cut down, usually in December, and burned when dry three or four months later. The seed is sown in the ashes, sometimes without ploughing, when the rains come, and in good years fine crops are secured with little further trouble. A catch-crop is sometimes raised the following season; and the spot is then abandoned for a period of from seven to ten years till there is sufficient fresh growth, when the process is repeated.

Bārkūr.—Village in the Udipi *tāluk* of South Kanara District, Madras, situated in 13° 29′ N. and 74° 48′ E. The traditional capital of Tuluva, the country of the Tulu-speaking people, it was long the local seat of the representatives of the Hoysala Ballālas of Dorasamudra, who were Jains by religion. The local rulers attained practical independence during the twelfth and thirteenth centuries, the most powerful of them being named Bhūtāl Pāndya (*circa* A.D. 1250), confounded by some with the Bhūtāl Pāndya to whom is ascribed the Aliya Santāna law of inheritance peculiar to the west coast, the origin of which is really much earlier. When the Vijayanagar kingdom was founded in 1336, Harihara, its first ruler, stationed a viceroy called the Rāyaru here and built a fort, remains of which are still to be seen. On the fall of Vijayanagar the Bednūr kings asserted their authority; and in the ensuing struggle the Jains were almost extirpated and Bārkūr was destroyed. Ruined tanks and Jain shrines and sculptures still abound, but its importance has vanished and not one Jain house remains.

Basrūr (the Barcelore or Barkalur of early geographers).—Village in the Coondapoor *tāluk* of South Kanara District, Madras, situated in 13° 38′ N. and 74° 45′ E., 4 miles east of Coondapoor. It was once a large walled town with a fort and a temple, and carried on an important trade with Malabar and the Persian Gulf; but its decline set in after the establishment of the Portuguese at Coondapoor in the eighteenth century, and it is now an insignificant place. The ruins of Sir Thomas Munro's courthouse are still pointed out. As Major Munro he was the first Collector of the District. Population (1901), 1,757.

Bekal.—Village in the Kāsaragod *tāluk* of South Kanara District, Madras, situated in 12° 24′ N. and 75° 3′ E. It has a fine fort on a headland facing the sea, which was built by Sivappa Naik of Bednūr about the middle of the seventeenth century. The defences are said to show traces of European science. The surrounding tract is really part of the Malayālam country, and was at one time subject to the Chirakkal Rājās. Bekal formerly gave its name to the present Kāsaragod *tāluk*, but it is now of no importance.

Chandragiri (or *Payaswani*).—River in South Kanara District, Madras. It rises in the Western Ghāts on the Coorg frontier, in 12° 27′ N. and 75° 40′ E., and flows nearly due west across the District, entering the sea at Kāsaragod. Its total length is about 60 miles, and it is navigable for twelve miles from its mouth by small boats. A large fort of the same name, picturesquely situated on the southern bank and attributed to Sivappa Naik of Bednūr, commands the mouth of the river. The stream forms the boundary between the true Malayālam country on the south and the ancient Tuluva, and according to traditional custom no Nāyar woman may cross it.

Coondapoor Village.—Head-quarters of the *tāluk* of the same name in South Kanara District, Madras, situated in 13° 38′ N. and 74° 42′ E., to the south of a large estuary into which three rivers run. Population (1901), 3,984. It was a port under the Bednūr kings, and in the sixteenth century the Portuguese settled here and built a fort. On a strong redoubt erected by Haidar now stand the office and residence of the divisional officer. Trade is at present principally carried on from Gangoli, which lies on the north bank of the estuary and is more favourably situated for shipping. On the sand-spit to the west of the town lies a small fresh-water reservoir containing a variety of fish locally known as the 'flower fish,' which run up to three feet in length and were especially reserved for Tipū's table during Mysore rule.

Hosangadi.—Village in the Coondapoor *tāluk* of South Kanara District, Madras, situated in 13° 40′ N. and 74° 58′ E., at the foot of a pass leading into Mysore. General Mathews won a brilliant victory here in January, 1783, on his march from Coondapoor to Bednūr, his small force storming a formidable series of defences held by 17,000 men. Remains of the defences, once known as Haidargarh, can still be seen.

Jamālābād.—A precipitous rock rising to a height of 1,788 feet at the end of a spur of the KUDREMUKH in the Uppinangadi *tāluk* of South Kanara District, Madras, situated in 13° 2′ N.

and 75° 18′ E. On his return from Mangalore in 1784, Tipū, struck with the strength of the position, built and garrisoned a fortress on the top, calling it Jamālābād in honour of his mother Jamāl Bai, and made the town at the foot the residence of an official. The fort was captured by the British in 1799, but shortly afterwards fell into the hands of the adherents of a Mysore pretender. The garrison, however, was forced to surrender after a three months' blockade in June, 1800. The town, formerly known as Narasimhangadi, no longer exists.

Kalliānpur.—Village in the Udipi *tāluk* of South Kanara District, Madras, situated in 13° 24′ N. and 74° 44′ E. It is conjectured to have been the Kalliana mentioned by Cosmos Indicopleustes as the seat of a bishop in the sixth century. It is also the reputed birthplace of Madhvāchārya, the Vaishnavite reformer, who was born about A.D. 1199. The Portuguese established a factory here in 1678.

Kārkala.—Village in the Udipi *tāluk* of South Kanara District, Madras, situated in 13° 13′ N. and 74° 59′ E. Population (1901), 5,364. It was once a populous Jain town and the seat of the Bhairarasa Wodeyars, a powerful Jain family of which no representatives are now left. In the neighbourhood are many Jain remains. The most remarkable is the monolithic statue of Gomata Rāya, erected by the ruling prince in A.D. 1431. It stands in an enclosure on the summit of a rocky hill south of the town overlooking a picturesque lake, and is 41 feet 5 inches high, with the traditional form and lineaments of Buddha. Once in sixty years Jains from all parts gather and bathe the statue with coco-nut milk. To the north, on the summit of a smaller hill, stands a square temple with projecting porticoes facing each of the four quarters, its columns, pediments, and friezes being alike richly carved and ornamented. Within, facing each entrance, stand groups of three life-sized figures in burnished copper, counterparts of the great statue above. At Haleangadi, close by, is the finest Jain *stambha* (pillar) in the District. It has a monolithic shaft 33 feet high in eight segments, each beautifully and variously ornamented, supporting an elegant capital and topped by a stone shrine containing a statue. The total height is about 50 feet. Kārkala is situated on one of the principal roads leading to Mysore, in the centre of a fertile tract containing many fine areca gardens. It has a considerable trade in rice and other local produce, and is the head-quarters of a deputy-*tahsīldār*.

Kudremukh ('Horse-face').—A conspicuous peak in the

Western Ghāts, 6,215 feet high, situated in 13° 8′ N. and 75° 20′ E., on the borders of the Kadūr District of Mysore and the South Kanara District of Madras. Its name is descriptive of its appearance seawards, where it forms a well-known mark for mariners. The approach from the Mysore side is by way of Samse, and the hill is sometimes called the Samse Parvat. The officials of South Kanara have a bungalow at the top as a hot-season retreat, and the bridle-path from that side is the easiest means of ascending the mountain.

Malpe.—Village and port in the Udipi *tāluk* of South Kanara District, Madras, situated in 13° 28′ N. and 74° 46′ E. It is the best natural port in the District, the roadstead being sheltered by the island of Daryā Bahādurgarh. The St. Mary Isles, on which Vasco da Gama landed in 1498 and set up a cross, lie about 3 miles to the north-west. The Basel Mission has a tile factory here.

Mangalore Town.—Administrative head-quarters of South Kanara District, Madras, situated on the shore of the Indian Ocean in 12° 52′ N. and 74° 51′ E.

The population in 1901 was 44,108, of whom 25,312 were Hindus, 7,149 Musalmāns, and as many as 11,604 Christians. The town stretches for about 5 miles along the backwater formed by the Netrāvati and Gurpūr rivers. Viewed from the sea, or from any point of vantage, it presents the appearance of a vast coco-nut plantation, broken only here by some church spire and there by a factory chimney. The busy bazars are quite concealed from view.

Under various local chiefs, whether they aspired to independence or admitted the suzerainty of Vijayanagar or Bednūr, such places as BĀRKŪR and KĀRKALA were of greater political importance, though the local Rājā, known as the Bangar chief, played his part in all the disturbances of the time. The Portuguese, attracted by trade, seized the town in A.D. 1596, and maintained a footing for the next two centuries with varying success. To Haidar, with his ambitious naval schemes, Mangalore was both strategically and politically important. On the fall of Bednūr he at once seized it (1763) and established dockyards and an arsenal. Captured by the English and abandoned in 1768, it was again seized by them in 1781. Surrendered to Tipū after a heroic defence by Colonel Campbell in 1784, it fell again to the English in 1799. Always an important trading place, Ibn Batūta mentions its commerce with the Persian Gulf as far back as 1342.

Mangalore is now the centre of the commercial and indus-

trial enterprise of the District. Tile-making, introduced by the Basel Mission, which has two factories in the town, is carried on by another European firm and nine native merchants as well; and the exports of tiles are valued at $3\frac{1}{2}$ lakhs. The town also contains a well-known weaving establishment belonging to the Basel Mission, as also a mechanical establishment of theirs, and three printing presses. Coffee is the chief article of export, the amount sent out being valued at 48 lakhs annually. It is all brought from Mysore and Coorg to Mangalore to be cured, an industry in which four European and three native firms are engaged. The other articles exported are areca-nuts and spices (11 lakhs), rice ($8\frac{1}{2}$ lakhs), and salted fish ($2\frac{1}{3}$ lakhs). The total value of the exports amounts to $86\frac{1}{2}$ lakhs annually. Of the imports, valued at $39\frac{1}{2}$ lakhs, piece-goods ($5\frac{1}{2}$ lakhs), salt ($4\frac{1}{4}$ lakhs), grain and pulse ($3\frac{1}{2}$ lakhs), and liquor ($2\frac{1}{2}$ lakhs) are the most important items. Steamers and large vessels are obliged to anchor outside the backwater, but the Arabian buggalows and country craft, of which more than 2,000 enter annually, can cross the bar. Reclamations and improvements, including a pier and tramway, have lately been completed at the wharves at a cost of Rs. 70,000. The St. Aloysius College (first grade), founded by the Jesuit Mission in 1880, and the Government College (second grade) are the chief educational institutions. The former has an average attendance of 460 students, of whom 60 are reading in the college classes. Mangalore was constituted a municipality in 1896. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 48,600 and Rs. 48,200 respectively. In 1903–4 the corresponding figures were Rs. 66,400 and Rs. 63,000, the chief items in the receipts being the taxes on houses and land and a grant from Government. There are 2 municipal hospitals with 32 beds for in-patients, and also 2 private leper asylums. A drainage scheme for the western portion of the town, the estimated cost of which is Rs. 1,46,000, is under consideration.

Mūdbidri.—Village in the Mangalore *tāluk* of South Kanara District, Madras, situated in 13° 5′ N. and 75° E., 21 miles east of Mangalore town. It was once an important Jain town, and a descendant of the old Jain chief, known as the Chouter, still resides here and draws a small pension. It contains eighteen Jain *bastīs* or temples, one of which, the Chandranāth temple, is the finest building of the kind in the District. It has about 1,000 pillars, all of them most beautifully and richly carved. The architecture of these *bastīs* is peculiar, and Fergusson

states that the nearest approach to the type is to be found in Nepāl. By the sloping roofs of their verandas and the exuberance of their carving, they show that their architecture is copied from constructions in wood. Close by are some tombs of Jain priests, built in several storeys, but of no great size and now much decayed. There is also an old stone bridge, which is interesting as showing the ancient Hindu methods of constructing such works.

Nīleshwar.—Village in the south of the Kāsaragod *tāluk*, South Kanara District, Madras, situated in 12° 16′ N. and 75° 8′ E. The surrounding territory formerly belonged to a branch of the Chirakkal family of Malabar. The local Rājās offered considerable resistance to the Bednūr kings in the eighteenth century, and were assisted alternately by the French and the English. When the District finally fell to the Company in 1799, the Rājā accepted a pension, which is still continued. The village is now of little importance.

Puttūr Village.—Head-quarters of the Uppinangadi *tāluk* and subdivision of South Kanara District, Madras, situated in 12° 46′ N. and 75° 12′ E. Population (1901), 3,999. The surrounding country belonged to Coorg, and after the Coorg rebellion of 1837 troops were stationed here till 1860.

Subrahmanya (or *Pushpagiri*).—Village in the Uppinangadi *tāluk* of South Kanara District, Madras, situated in 12° 41′ N. and 75° 36′ E., at the foot of a celebrated mountain, the correct name of which is Pushpagiri, on the border of that District and Coorg. The mountain, which is two-pointed, precipitous, and of peculiar shape, is one of the most prominent heights in these parts, resembling, as seen from Mercāra, a gigantic bullock hump. Elevation, 5,626 feet above the sea. At its summit are many ancient stone cairns. In the village is an old and famous Saivite temple, and it is one of the chief centres of serpent-worship in Southern India. To the cattle fair held at the time of the annual festival in November–December it has been estimated that 50,000 cattle are usually brought, mainly from Mysore.

Udipi Town.—Head-quarters of the *tāluk* of the same name in South Kanara District, Madras, situated in 13° 21′ N. and 74° 45′ E. Population (1901), 8,041. The Krishna temple here, said to have been founded by Madhvāchārya, the great Vaishnavite reformer, in the thirteenth century, is largely resorted to by pilgrims. There are also eight ancient *maths* (religious houses), and each of the heads of these presides in turn over the Krishna temple for two years. The most impor-

tant festival is the Pariyāya, celebrated at the change of these incumbents in January of every alternate year.

Ullāl.—Village in the Mangalore *tāluk* of South Kanara District, Madras, situated in 12° 50′ N. and 74° 51′ E., on the south bank of the Netravāti river opposite to Mangalore town. It was once the seat of a Jain family of some local importance in the sixteenth and seventeenth centuries. The Italian traveller Della Valle (1623) mentions the queen of Olaya. With the exception of a ruined temple at Somnāth, about a mile to the south, which contains sculptures of peculiar design, hardly a trace is now left of the former importance of the place. It is at present a straggling bazar with some trade, but depending for its prosperity mainly on the transport of passengers and goods to and from Mangalore and elsewhere, an occupation which gives employment to a large number of Māppilla boatmen. The population in 1901 was 6,181.

Yenūr (or *Venūr*).—Village in the Mangalore *tāluk* of South Kanara District, Madras, situated in 13° 1′ N. and 75° 9′ E. Its former importance is attested by numerous remains, the most remarkable being a colossal monolithic Jain statue, 37 feet high, similar to that at KĀRKALA but smaller, which was constructed in 1603. The population in 1901 was only 628.

TRAVANCORE STATE

Physical aspects.

Travancore State (*Tiruvānkūr*, *Tiruvālumkodi*, 'the abode of the Goddess of Prosperity').—Native State in political relations with the Government of Madras, affairs in it and the adjoining State of Cochin being controlled by the Resident in Travancore and Cochin. It takes its name from Tiruvankod (*Tiruvidāmkodu*) in Eraniel *tāluk*, 30 miles south of the capital, TRIVANDRUM, in ancient times the chief town of a small principality which subsequently grew into the present State. It lies in the extreme south-west of the Indian Peninsula, between 8° 4′ and 10° 21′ N. and 76° 14′ and 77° 37′ E. It is bounded on the north by the State of Cochin and the Madras District of Coimbatore; on the east by the lofty range of the WESTERN GHĀTS, beyond which lie the Districts of Coimbatore, Madura, and Tinnevelly, the line of demarcation passing along the summit of the Ghāts; on the south by the Indian Ocean; and on the west by the Arabian Sea. Its frontiers are thus defined by natural features on all sides except the north, where portions of the State of Cochin at several points intervene between it and the sea in the north-west. Its greatest length from north to south is 174 miles, and its greatest width, near the northern boundary, 75 miles. Its breadth is very irregular, gradually diminishing from the north and converging to a point at the southern extremity; the average width is about 40 miles. In shape, the State is triangular, the apex being at CAPE COMORIN. Its area, according to recent measurements, is 7,091 square miles. Of this, more than 2,500 square miles are covered with forests, jungle, and backwater; and about 2,000 square miles by low chains of hills, a portion of which is available for pasturage.

The State is perhaps the most beautiful and most fertile area in all Southern India. It was thus described by Lieut. Conner in his report on the survey made at the beginning of last century:—

'The face of the country presents considerable diversity, although its general character, except the southern parts, is extremely abrupt and mountainous. The coast, for a short distance along the borders of the lake[1], is generally flat;

[1] That is, the line of backwaters referred to below.

retreating from it the surface immediately becomes unequal, roughening into slopes which gradually combine and swell into the mountainous amphitheatre that bounds it on the east, where it falls precipitately, but terminates less abruptly on the south. The collected villages, waving plains, palmyra topes, and extensive cultivation of Nānchānad resemble in every particular the neighbouring province of Tinnevelly, except that it in no measure partakes of its comparatively arid sterility. Approaching northward this fertile plain is succeeded by the woody and rugged surface of the genuine Malayālam; some few champaign tracts enclosed within this ocean of forest relieve the uniformity of the sylvan scene. The extent lining the coast for its whole length presents a fertility so near the sea that it imparts a peculiar character to the landscape. This rich and variegated tract is flanked by a mountainous barrier, and is finely contrasted with the sombre magnificence and desolate solitude of those wilds of which the elephant seems the natural master; and though the landscape may be too much made up of this wild scenery, it boasts of many striking localities and peculiar beauties, if not of the sublime, at least romantic and picturesque kinds. The eye is arrested by the wild, rocky, precipitous acclivities and fantastic forms assumed by the mountains in the more southern parts; but proceeding north the bold and elevated contour of the Alpine tract is less sharply defined; a few rugged cliffs and spiry points or conical summits alone breaking through the sameness of its rounded and sombre outline. This Apennine dissolves into clustering hills and romantic inequalities, at whose feet wind innumerable valleys, presenting (particularly in the middle parts) the most delightful landscapes whose natural beauties are embellished and diversified by the prospect of churches and pagodas. Indeed, the endless succession of houses and gardens scattered in picturesque order over the face of the country gives it entirely a different appearance from the other coast, the nudity of whose plains is unfavourably contrasted with the robe of florid and exuberant vegetation that for a great part of the year clothes Malayālam. The areca and coco-nut everywhere fringe those picturesque and sequestered glens, which gradually expand into the extensive plantations and cultivated lands that skirt the sea and lake. This space is enlivened and fertilized by innumerable rivers and pastoral streams, whose borders are crowned with groves and cultivation that, everywhere, following their winding course, present a unique, interesting, and charming scenery, infinitely more diversified than most other parts of the Peninsula and one that would indicate abundance. This is especially the case in Kuttanād; the watery flatness of this fertile fen is relieved by the gardens and habitations so thickly strewn over its surface, which exhibits a network of rivers meandering through the verdure they create.'

It has been truly remarked that 'it will be difficult to name

another land which, within so narrow limits, combines so many, so varied, and such precious natural blessings.' 'Where the land is capable of culture,' it has also been said, 'there is no denser population. Where it is occupied by jungle, or backwater, or lagoon, there is no more fairy landscape.'

Hill and river systems.

The mountainous character of Travancore is due to the Western Ghāts, which flank it on the eastern side, and reach their highest elevation in the north-east of ANAIMUDI PEAK, 8,837 feet above the sea, the numerous heights clustering round this part being often termed the High Range. South of this group are the CARDAMOM HILLS and PĪRMED, where the land spreads out in a plateau of considerable width with hills running up to about 5,000 feet. For the rest of its length the range consists of a ridge at an elevation of about 4,000 feet, with isolated peaks, of which Agastyamalai and the Mahendragiri are the most important. From the main range of the Ghāts rocky spurs run out towards the west, in some cases to within a short distance of the sea. From Quilon southwards these secondary ranges soften down into undulating slopes, intersected by glens and valleys, which grow wider as the elevation of the hills decreases, and are very productive.

Owing to the mountainous character of so large a portion of the country, its rivers and streams are very numerous. They have generally a very winding course, and they empty themselves either into the backwaters referred to below or directly into the sea. A dozen principal rivers with their tributaries and ramifications intersect the country in all directions. The largest of them is the Periyār ('big river'), which is 142 miles in length. This rises in the Sivagiri forests, 60 miles south of Devikolam on the High Range, at an elevation of over 3,000 feet. From here it runs north, but inclining towards the west, until it reaches a point close under that range. Thence it turns to the west and plunges down between immense cliffs of rock, and after a long north-westerly course reaches Alwaye, where it divides into two branches, that to the north falling into the sea at Pallipuram and the other to the south emptying itself into the backwaters west of Ernākulam. The upper waters of this great river have been utilized by the PERIYĀR PROJECT for irrigation in the Madura District of Madras.

Back-waters.

An interesting chain of lakes or backwaters extends along the coast from the northernmost frontier to Trivandrum. These are either expansions of the rivers at their mouths, or extensive sheets of water receiving the accumulated flow of several rivers and streams. They are separated from the sea

by a bar of sand from 7 miles to about half a mile in width, but the rivers have several outlets by which they disgorge themselves into the sea. The flood-tides also flow over the bars into them and cause them to rise about 2 feet. These backwaters, of which there are more than a dozen, their total area aggregating 157½ square miles, are connected together by navigable canals, the whole forming a water communication extending to a length of 200 miles. The largest of these are those of Kāyankulam and the Vembanād. The latter is 32 miles long and 9 miles broad, covering an area of 79 square miles. A few fresh-water lakes exist in the State, the two largest being at Vellāni near Trivandrum and Sāsthānkotta near Quilon.

Only the southern and western parts of the State have been geologically surveyed. The Ghāts consist of old crystalline rocks, which are splendidly displayed in the south. The lowest sedimentary rock is a grey fossiliferous limestone found round about Quilon, which is the only one of the kind yet known in the Presidency. From the fossils it contains, it appears to be of eocene age. Resting upon it is a series of variegated sands and clays, underlaid by carbonaceous clays or shales and lignites and capped by laterite, which is known as the Warkalli (VARKKALLAI) series from the village of that name not far from Quilon. There they form a line of cliffs on the sea face extending along the coast for a distance of 22 miles. Petrologically, they resemble the Cuddalore sandstones, and their colouring is often very beautiful. The laterite of Travancore, which occurs largely in a belt of country extending along the coast for many miles, is twofold in character. In places it is a superficial rock formed by the decomposition of the gneissic rocks; in others it is a true laterite formed of débris washed down from higher levels. The latter is typically developed in the neighbourhood of Kottayam, where it is largely used as a building material. Along the coast are white sand-dunes and areas of red sand or *teri*. These last stand high, though close to the coast, and are a well-known landmark for mariners. Westward of Cape Comorin are a few fringing reefs of dead coral. A phenomenon which has given rise to no small discussion is the remarkable mud-bank lying in the sea 6 miles south of ALLEPPEY. This is about 4 miles long by 1½ wide, and is affected by tidal action. It operates in a remarkable way to prevent the formation of waves; the soft oily mud mingles with the sea water when the heavy ocean waves touch the bank, and so smothers their crests that the water inside the bank is quite smooth and forms an admirable anchorage. The Geology.

supply of mud is supposed to be renewed by being forced out below the banks by the weight of the water in the flooded backwaters and streams of the mainland. Another curious point about this anchorage is that the amount of fresh water brought down by the streams and falling in the heavy rains of this coast is so great that it lies on the surface of the heavier sea water to a considerable depth, and sailors can obtain drinking water by letting down a bucket from the side of their ship into the sea around them.

Botany. The great differences which occur in the altitude of the State have naturally resulted in a large variation in its flora. Generally speaking, the majority of its plants are those which love a warm and exceedingly damp climate. In the upper ranges of the Ghāts is found the heavy evergreen forest, and the principal trees here are referred to in the account of the Forests below. The low country is conspicuous for the masses of areca and coco-nut palms which abound in it, and another prominent tree is the glossy-leaved jack. In the rains every hollow is filled with a luxuriant tangle of vegetation, and ferns and mosses grow in profusion on every bank and wall.

Fauna. The mountains and vast forests of Travancore afford admirable cover for large game. Elephants are numerous. Tigers, leopards, bears, bison (*gaur*), the Nīlgiri ibex, *sāmbar* and other kinds of deer abound. Snipe, duck, and teal are plentiful in the low country, and otters are often seen in the backwaters.

Climate and rainfall. Along the coast the climate is equable and damp. The temperature seldom falls below 70° and hardly ever rises above 90°. At the foot of the hills the variations range to 5° or 6° on either side of these temperatures. On the hills the thermometer naturally varies with the altitude. On the High Range the climate is that of a temperate region, the thermometer falling to 50° or 60° in the day, and frosts at night being known in the winter months.

The rainfall is heavy. The greatest quantity, brought by the south-west monsoon, falls between May and August. Towards the end of October the north-east monsoon asserts itself, but the rain it brings is lighter on the low country than on the hills in the north-east, where it descends in sudden and very heavy showers. The Trivandrum Observatory is the only place in Travancore where accurate observations of meteorological phenomena have been made over any considerable period. They may be taken, however, as fairly representative of a wide area. The average annual rainfall there is 58 inches. On the Pīrmed hills the fall is about 200 inches.

Of the early history of the State but little is known. Tradition History. says that it formed part of the ancient kingdom of Kerala, and that in the early centuries of the Christian era the whole of the west coast was ruled by a succession of chiefs who each held office for twelve years. About the first half of the ninth century A. D., Cheramān Perumāl, the last of these, is said to have divided his country among his relations, one of whom received the southern portion or Travancore, and then to have gone on a pilgrimage to Mecca. It seems fairly certain that during the latter half of the eleventh century the State was conquered by the CHOLAS, but about a century later the local kings recovered their lost possessions. During the middle of the thirteenth century the south-eastern portion of the State was invaded by the PANDYAS of Madura, who had then reasserted their independence of the waning Cholas. By the beginning of the next century, however, the local kings once more regained power. Achyuta Rāya, the Hindu king of Vijayanagar, and Sadāsiva, his successor, invaded the State in 1534 and 1544. After the battle of Tālikotā, in 1565, in which this dynasty was crushed by the united Muhammadans of the Deccan, the State appears to have become feudatory to the Naik kings of Madura. At this time it seems to have been a congeries of petty chiefships, each of which claimed pre-eminence over the rest. In the first half of the eighteenth century, however, most of them were subdued by Mārtānda Varma, who may justly be called the maker of modern Travancore. He had his troops disciplined in the European fashion by a Flemish officer named De Lannoy (whose tomb may yet be seen in the ruined chapel of Udayagiri fort in south Travancore), he strengthened the fortifications of the country, improved its revenue administration, adorned it with palaces and temples, and increased its opportunities of commerce. In all his undertakings he was assisted by an able minister named Rāma Ayyan Dalawa, and both king and minister are even now the subjects of many popular anecdotes. Rāma Ayyan was also commander-in-chief of the king's army. Foremost among his military exploits was the conquest and annexation of the three principalities of KĀYANKULAM, AMBALAPULAI, and CHANGANACHERI. The consolidation of the conquered territories, the suppression of internal dissensions, and the establishment of peace and order formed his life-work. The organization of a commercial department for the development of trade, the introduction of an excise system, and the preparation, for the first time, of a consolidated statement regulating expen-

diture by the revenue were the most prominent of his labours as minister. Several of his measures and rules are still in force, and are popularly referred to as the *sattam* ('rule') of Rāma Ayyan Dalawa.

Mārtānda Varma was succeeded by Rāma Varma, who followed in his footsteps. He succeeded in subduing the remaining chiefs, and in 1761 constructed the historic Travancore Lines, stretching in an almost straight line from the shore of the Cochin backwater opposite the ancient town of Crānganūr to the foot of the Ghāts, to protect his State against the incursions of Haidar Alī, who had about this time usurped the sovereign authority in Mysore. Haidar threatened Travancore twice: in 1766 and again in 1776. But on both these occasions his plans were thwarted by the Dutch, who stood between him and the State. In 1778 the Rājā granted a free passage through his territories to the British troops sent to attack the French settlement of Mahé, then much valued by Haidar as the base of his military supplies. He had already treated with contempt Haidar's proposals to become his vassal, and had openly avowed himself the friend of the British, whom he actively joined in their campaign against the Muhammadan ruler. In consideration of these services, he was expressly named in the Treaty of Mangalore concluded with Tipū, the son and successor of Haidar, in 1784, as the friend and ally of the British. Threatened by Tipū in 1788 the Rājā entered into an agreement with the British, by which he allowed two battalions of sepoys to be stationed on his frontier at his own expense. Just then Tipū, claiming the forts of Ayakotta and Crānganūr, which had recently been purchased by the Rājā from the Dutch, invaded Travancore (1789). He was utterly defeated and narrowly escaped being slain in the encounter. In the following year Tipū renewed the attack, and cruelly devastated the northern portion of the country. But hearing that the British had in consequence declared war against him, he beat a hasty retreat towards Pālghāt; and on the conclusion of the war, in 1792, he was compelled to restore all that he had wrested from Travancore. In 1795 the Rājā entered into a fresh treaty with the British, by which he engaged to pay an annual subsidy adequate to maintain three battalions of sepoys, with European artillery, in return for protection against all aggressors by sea or land. The Rājā also bound himself not to enter into any agreement with any European or Indian States without the previous consent of the British Government, nor to grant the former any settlements

in his country, and to assist the British, whenever required, with his troops, who would be maintained at their cost. Three years after the conclusion of this treaty, the Rājā died. He had been ably assisted throughout the latter part of his career by Dīwān Rājā Kesava Dās, who is even now popularly remembered in the State as the great Dīwān. The Rājā was succeeded by his nephew Rājā Bāla Rāma Varma. This prince was a weak ruler, and intrigue began. On the disbanding of the Nāyar battalions in 1804, an insurrection was raised to subvert British influence in the councils of the Rājā. It was easily suppressed by the subsidiary force from Quilon and immediate measures were taken to prevent its repetition in future. A treaty was concluded in the following year (1805), by which the Rājā was relieved of his old obligation to furnish military aid, but was required instead to pay annually, in addition to the former subsidy of 8 lakhs of rupees, a sum adequate to maintain one more native regiment, and to bear an equitable proportion of the expense of a larger force, when necessary. He moreover bound himself to allow the British Government to assume the direct management of the State in case of non-payment; to pay at all times the utmost attention to the advice of the British Government; to hold no communication with any foreign State; and to admit no European foreigner into his service, or to allow him to remain within his territories without the previous sanction of the British Government. In 1809 the Dīwān Velu Tampi Dalawa, in conjunction with the chief minister of the Cochin State, raised an insurrection and attempted to murder the Resident, Major Macaulay. The outbreak was easily suppressed and the Rājā was required to defray the expenses incurred. These were but tardily discharged; and the British Government was about to assume the internal administration of the country, as the only means of ensuring a satisfactory settlement, when the Rājā died in 1810.

He was succeeded by Lakshmī Rānī, who confided the administration of the State to Col. J. Munro, the Resident; and from that date Travancore commenced a fresh career of peace, progress, and prosperity. The Rānī died in 1815, and her sister Pārvatī Rānī became regent till Rāma Varma, Lakshmī Rānī's eldest son, attained his majority in 1829. During his reign of seventeen years from that date, a series of administrative reforms were undertaken. He was succeeded by his younger brother, Mārtānda Varma, in 1846. The latter was followed in 1860 by his nephew, Rāma Varma, who

received in 1862 from Earl Canning, then Governor-General of India, a *sanad* granting to him and his successors the right of adoption on failure of natural heirs[1]. He died in 1880 and was succeeded by his brother, also called Rāma Varma, who in 1885 was succeeded by the present Mahārājā, His Highness Sir Srī Rāma Varma, G. C. S. I. The State maintains a military force (part of which is known as the Nāyar Brigade) of 61 cavalry, 1,442 infantry, and six guns, and the Mahārājā is entitled to a personal salute of 21 guns.

Archaeology. Systematic researches in the field of archaeology have yet to be undertaken in the State. Some barrows have been discovered in the mountainous parts of north Travancore. They consist of three rude low pillars with a conical laterite cover, and are locally called Pāndukulis, that is, 'pits of the Pāndavas.' Two remarkable earthworks are also to be seen in Todupulai *tāluk* in the north-east. In the low hill-ranges, mounds of earth laid along the ridges are frequently met with, and also stone cromlechs with slabs planted in the middle of them, containing inscriptions. Roman *aurei* and other coins of the early emperors have been dug up. In 1896 a State archaeological department was organized, and through its agency inscriptions are being collected and deciphered. Most of these occur in the ancient temples with which the country abounds.

The people. The population of the State was 2,311,379 in 1875, 2,401,158 in 1881, 2,557,736 in 1891, and 2,952,157 in 1901. It contains nine towns and 3,885 villages. Six per cent. of the people live in the former. The towns have on an average 20,426 inhabitants and the villages 712. The density of population is as high as 416 persons per square mile. Hindus in 1901 numbered 2,035,615 (68·9 per cent. of the total); Christians, 697,387 (23·6 per cent.); Muhammadans, 190,566 (6·4 per cent.); Animists, 28,183 (0·9 per cent.); and 'others,' 401. Malayālam is the language of more than four-fifths of the population. As many as 192 castes have been returned. Of these the Nāyars, the old military class, are the most numerous, aggregating 520,941, or 25 per cent. of the total Hindu popula-

[1] The laws which govern succession are peculiar, descent being traced in the female line, according to the prevalent usage on the west coast. Any failure in the direct female descent requires the adoption of two or more females from the immediate relations of the family, all of whom are assigned a distinguished rank and enjoy many privileges, as alone entitled to give heirs to the State. Owing to failure of natural heirs, two girls have recently been adopted, with the sanction of the British Government.

tion. Among them, as also among some of the lower castes, succession is traced through the female line; and marriage is a social compact, dissolvable at the will of either party. The next largest castes are the Iluvans or Tīyans (491,774, or 24 per cent.), the Pulayans (field labourers, 206,503, or 10 per cent.), and the Shānāns (toddy-drawers, 155,864, or 7 per cent.). The Paraiyans, the Kuravans, and the Asāris number between 50,000 and 100,000; and the Vellālas, the Brāhmans, the Mārāns, and the Kollans between 20,000 and 50,000. The most important class of Brāhmans is that of the Nambūdris, who affect extreme conservatism and ceremonial purity. Twelve other castes are each more than 10,000 strong. Of the Christians returned, 534 are Europeans. Sixty per cent. of the entire population depend upon agriculture in one form or other for their means of subsistence.

Christian missions. Christians are more than usually numerous. The Syrian Church is the oldest in the State, and is believed to have been founded in the very early centuries of the Christian era[1]. The Catholic mission, which comes next, may be said to date from 1330, when Pope John XXII deputed Friar Jordanus to be Bishop of Columbum (Quilon). The chief Protestant missions are the London Missionary Society and the Church Missionary Society, founded in 1806 and 1816 respectively. Of the total number of Christians, Roman Catholics number 377,500, Syrians 227,670, and Protestants 92,217.

Vital statistics. The collection and record of vital statistics was begun throughout the State in August, 1905, but the system has not yet reached a high stage of efficiency. The birth-rate in 1903–4 was returned at 18·6 per mille of the population, and the death-rate at 14·5 per mille. The majority of deaths were due to fevers.

Agriculture. The soil of the country differs in different localities. That along the coast is fine whitish sand, with a mixture of calcareous clay as a lower stratum, combined with vegetable matter; that in the lower parts of the valleys consists generally of a brownish-coloured clay, often porous and permeable and, in some places, stiff and hard to work; and that in the upper lands reposes on a basis of laterite, which frequently appears superficially in large masses.

As the revenue settlement now proceeding has not yet been finished, no accurate agricultural statistics are available. The principal food-grain grown is rice, the area cultivated with it

[1] For details see *The Syrian Church in India*, by the Rev. G. Milne Rae (London, 1892).

being about 940 square miles. The main source of agricultural wealth is, however, the coco-nut tree. The crops next in importance are pepper, areca-nut, jack-fruit, and tapioca, the two last forming considerable items in the diet of the poorer classes. On the hills are grown cardamoms, coffee, and tea, the last being the most important.

Buffaloes and bullocks are used for ploughing. The agricultural stock is, however, very poor, and cattle-breeding is not conducted on any considerable scale. The climate is probably too wet to allow animals to thrive well.

Though the extent of rice cultivation is large, the amount grown is not sufficient for the needs of the dense population. Large quantities are, therefore, imported. Famine, however, of the nature and extent experienced elsewhere in India is unknown. Garden cultivation is the mainstay of the people, and it is only when the gardens fail to yield their annual produce that scarcity begins to prevail. Failure of the rice crops tells, of course, adversely on the population of the locality affected; but its operation is usually limited to particular areas, and with the remission of taxes and other help from the State, and with the proceeds of their garden produce, the people are able to buy imported rice and in a manner tide over adverse seasons.

Irrigation. From an irrigation point of view, the country contains two distinct divisions. In north Travancore, with its numerous rivers and watercourses, the irrigation works are chiefly intended to protect the cultivation against floods and from the influx of saline water through the communications with the sea. South Travancore, on the other hand, with its comparatively small number of rivers, frequently suffers from scarcity of water. The rainfall has therefore to be stored and distributed in these areas. In very ancient times a dam was built across the Paralayār and a well-devised system of irrigation was organized. Though this has done much good, agricultural depression has been not infrequent. In order, therefore, to secure an efficient water-supply a project for damming up the waters of another river, the Kodayār, is now under execution. The supply so obtained is expected to irrigate an area of about 23,000 acres already cultivated, and also to bring under cultivation a fresh area of between 50,000 and 60,000 acres.

Forests. The forest area, which is confined to the eastern parts of the country, comprises nearly one-half its total extent. The growth may be divided into four different classes: (1) heavy moist forests of evergreen trees, confined to the slopes of the Ghāts and to perhaps about one-third of the upper hill plateau; (2)

land originally covered with moist forest, but now overspread with scrub of various ages; (3) deciduous forest, with grass growing under the trees, which covers the ridges and higher ground and a part of the hill plateau; and (4) rock and land covered with short grass. This last class is of no utility as far as timber is concerned. The second class contains no timber of any value except *vaga* (*Albizzia procera*). In the moist forests, the trees grow very close together, and exhibit an extraordinary variety of species. Among the most important are ebony (*Diospyros Ebenum*), *kambagam* (*Hopea parviflora*), *anjili* (*Artocarpus hirsuta*), jack (*A. integrifolia*), and white cedar (*Dysoxylum malabaricum*). The deciduous forests are the most valuable; and here grow the trees for which Travancore is famous, such as teak (*Tectona grandis*), blackwood (*Dalbergia latifolia*), sandal-wood (*Santalum album*), *irūl* (*Xylia dolabriformis*), *vengai* (*Pterocarpus Marsupium*), and *tembāvu* (*Terminalia tomentosa*). The finest teak in Travancore is found on hills of an elevation of from 1,000 to 2,000 feet. About the beginning of the last century, a tree is said to have been felled in the Idiyara valley which measured 7 feet in diameter at its base and 26 inches in diameter at 70 feet from its butt, giving 900 cubic feet of timber. In the Trivandrum Museum, there is a plank sawn from a tree felled in the same valley which is 4 feet $3\frac{1}{2}$ inches across. The trees felled in the forests are transported by land in south Travancore, and in the north are floated down the rivers. The major portion of the timber felled is exported to foreign places. Pondicherry and Tuticorin and the country north and east of Madura take large supplies, chiefly of *vengai*, *kambagam*, and *tembāvu*. Most of the teak and blackwood goes to Cochin, and is thence exported to Bombay and other parts. White cedar is largely used for manufacturing casks for the export of coco-nut oil to Europe. The more common woods are sent across to Arabia. The total value of the timber exported in 1903–4 was Rs. 3,79,000. In the same year the receipts from the forests amounted to Rs. 6,75,000, and the expenditure to Rs. 4,73,000. The total area of 'reserved' forests was 2,153 square miles, and of land proposed for reservation 239 square miles. An area of 1,900 square miles was under protection against fire. Teak, sandal-wood, and other valuable trees are being artificially reproduced, the extent opened up for teak cultivation being about 2,000 acres. Attempts are also being made to grow exotics, such as camphor, rubber, &c.

The Forest department is under a Conservator; and four

divisions, each under a Deputy or Assistant Conservator, are subdivided into ranges, each under a ranger.

Minerals. The mineral resources of the country have yet to be explored and ascertained. Plumbago is the only mineral now worked to any extent. The first systematic attempt at mining it was made in 1892. Three mines are being now worked, two in the Nedumangād and one in the Neyyāttinkara *tāluk*, the total output amounting to 20,000 tons, of which 18,000 tons are obtained from the Vellanād mines in Nedumangād. Mica of a superior quality is also found in several parts of the country.

Arts and manufactures. Cotton-weaving and the making of matting from coir (the fibre of the coco-nut) are the chief industries. Cotton cloths of many kinds are woven in south Travancore and sold locally. The coir mats and yarn are exported. Coarse gunny-bags are also made to some extent.

There were, in 1903-4, thirteen factories in the State: three at Quilon and ten at Alleppey. Of these, three make coir matting, one manufactures coir fibre, three are oil-mills, one is a cotton-spinning factory; and in five miscellaneous work, such as the pressing of coir, fibre, and yarn, tile-making, carpentry, &c., is carried on. Besides these, thirty tea and coffee factories were worked on the High Range. Steam power was in exclusive use in eleven of these concerns. The total number of hands employed averaged 4,863; and their daily wages ranged from 1 anna 8 pies to 11 annas 2 pies. Among the arts practised should be mentioned the carving of ivory, which has long been under the direct patronage and encouragement of the rulers of the State, and examples of which won a medal at the Delhi Exhibition of 1903. Efforts are being successfully made, also, to establish an industry in the weaving of plantain fibre.

Commerce. Trade has greatly expanded of late. The value of the external trade (imports and exports) averaged 170 lakhs during the decade 1881-90 and 240 lakhs during 1891-1900, showing an increase of 43 per cent. In 1903-4 the exports formed 65 per cent. and the imports 35 per cent. of the total trade. Of the total external commerce, 86 per cent. was with British India, 9 per cent. with Ceylon, 2 per cent. with the United Kingdom, and 3 per cent. with other countries. Taking the trade routes, 37 per cent. of the trade was carried on by sea, 45 by backwater, and 18 by land. Most of the backwater trade may, however, be regarded as sea-borne trade, as it consists of goods carried to Cochin for shipment by sea. The chief centres of commerce are Kolachel, Quilon, and Alleppey on the coast,

and Kottār, Kāyankulam, Changanācheri, and Alwaye inland. The principal trading communities are the Musalmāns, Ila Vāniyans, Syrian Christians, Chettis, Vellālas, and Brāhmans, the last three of whom do most of the banking business. The chief exports are the products of the coco-nut tree: namely, copra (dried kernels), coir, fibre, and coco-nut oil and nuts; and these represent more than 50 per cent. of the total. After them come pepper, tea, jaggery (coarse sugar), areca-nuts, dry ginger, salt fish, timber, hides, tamarinds, and coffee. The chief imports are tobacco, rice, piece-goods, cotton, and thread.

Till 1865, Travancore had its own import and export tariffs. In that year an Interportal Convention was entered into with the British Government, under which duties may be charged only upon tobacco, salt, opium, and spirits manufactured or produced in British territory and thence imported into Travancore, and on salt, opium, and spirits produced or manufactured in Travancore and imported into British territory. With the same exceptions as were arranged with the British Government, free import is allowed from Cochin to Travancore and vice versa. On foreign goods, Travancore adopts the British Indian tariff rates, except in the case of tobacco. As regards exports, it retains its own tariff, but its policy has been to keep the rates low.

Means of communication.

Travancore is well provided with means of communication. The total length of roads maintained by the department of Public Works in 1903-4 was 3,026 miles, exclusive of 'traces' 376 miles in length. The chief lines are the trunk roads radiating from Trivandrum to the northern frontier, via Kottārakara, Changanācheri, Kottayam, and Mūvattupula (155 miles); to the southern frontier, via Nāgercoil (53 miles); to the eastern frontier, via Shencottah (65 miles); and to Quilon on the coast (45 miles). Among the more important roads are those leading from Changanācheri and Kottayam, via Pīrmed to the Kumili frontier and thence to Ammayanāyakkanūr in Madura District (about 145 miles); from Quilon to Shencottah (60 miles); and from Munnar on the High Range to Bodimettu on the Madura side of the frontier (21 miles) and to Chinnar on the Coimbatore side (40 miles). Connected with one another by numerous cross-lines, these roads form a network of communications covering almost the whole country. Where the steepness of the ground or other causes have made it difficult to open cart-roads, bridle-paths have been cut or are under construction, of which the most important are those connecting the High Range with the low country on the south

and with the coast on the west. Hardly an estate on the hills is not connected with cart-roads by bridle-paths.

The facility of communication which the north and central portions of Travancore enjoy lies, however, in the possession of a natural system of backwaters, besides canals and rivers navigable for country boats. The backwaters consist of a series of lagoons running parallel to the coast, separated from it by a strip of land from half a mile to 7 miles in breadth and artificially connected with each other wherever they may not be continuous. About 200 miles of navigable canals and backwaters are maintained by the Public Works department.

Two lines of railway intersect the country: the Cochin-Shoranūr Railway in the north-west, and the Tinnevelly-Quilon Railway passing through the heart of the State. The length of the former line within Travancore is about 18 miles, and that of the latter about 58 miles. The State provided the cost of the construction of the latter through its territory, amounting to 108 lakhs.

Post office.

Travancore has its own postal (*anchal*) system, working side by side with the British post offices. The two systems have no connexion with one another, and additional charges have to be paid on communications, parcels, &c., transferred from the one to the other. Thus articles posted outside Travancore and transferred from any British post office within Travancore for delivery through the *anchal* are charged at prepaid rates, and those posted in any British office within Travancore and transferred to the *anchal* are charged at double rates. Originally, the *anchal* was maintained exclusively for the service of the State. In 1860 it was thrown open to the public, and the system of levying postage on letters and parcels was introduced. In 1903–4 the number of *anchal* offices was 150 and the number of letter-boxes 179; the length of mail communications was 928 miles; and about 4,884,000 covers, private and official, passed through all the offices. The *hundī* or money-order system has recently been introduced, on the lines in force in the British Post Office. In 1903–4, 67,300 orders were issued and 66,800 paid, the receipts and payments amounting to Rs. 9,83,100 and Rs. 9,82,700 respectively.

The actual receipts of the Anchal department amounted during the official year 1903–4 to Rs. 77,000 or, including the sum chargeable on official covers, to Rs. 2,92,000. The cost of the establishment was Rs. 1,00,000. The State has its own postage stamps and cards. They are of the following descriptions: stamps of the value of 8 cash (3 pies), 12 cash (5 pies),

1 chakram (6·7 pies), 2 chakrams, and 4 chakrams; covers for 1, 2, 3, and 4 chakrams; wrappers for 6 cash ($2\frac{1}{2}$ pies); and cards for 4 cash ($1\frac{3}{5}$ pies).

Famine may be said to be unknown in Travancore, though, as has been already mentioned, bad seasons occasionally cause small and local distress. Famine.

For general administrative purposes the State is divided into 31 *tāluks*, grouped into four divisions or districts, namely, Padmanābhapuram (five *tāluks*), Trivandrum (four), Quilon (eleven), and Kottayam (eleven). The average area of a division is 1,773 square miles and the average population 738,039. A *tāluk* averages 229 square miles in exten and contains 92,255 persons; but, owing chiefly to diversity of physical features, the range of variation in these figures is very wide. For purposes of revenue collection, the *tāluks* are further subdivided into smaller areas called *provertis*, each under a paid officer styled the *provertikāran*. Administrative divisions.

Each division is provided over by a Dīwān Peshkār and District magistrate, answering to the Collector-Magistrate of a British District. A *tahsīldār*, who is usually a second-class magistrate, is in charge of each *tāluk*. The Peshkārs form a superintending and checking agency, and are responsible for the proper and regular administration of the *tāluks* comprising their charge. In addition to the four Peshkār magistrates, there are two other District magistrates, one being the Commercial Agent at Alleppey and the other the Superintendent of the Cardamom Hills.

The chief branches of the administration, besides the Revenue and Executive, are the Judicial, Survey and Settlement, Public Works, Anchal, Forest, Medical, Sanitary, and Educational. Their jurisdictions differ and are often not conterminous with the revenue divisions noticed above. Their organization and the rules and regulations laying down the general lines of their working are mainly after the British model.

The administration of the State is conducted in the name and under the authority of His Highness the Mahārājā by the Dīwān or Prime Minister. A Popular Assembly, consisting of non-official gentlemen nominated by the Government to represent the various *tāluks* and towns and the planting interest, has recently been constituted to assist in ascertaining public opinion upon administrative questions.

The laws of the State are known as Regulations, and till recently they were framed by the Dīwān and passed by the Legislation.

Mahārājā. In order to secure for legislative measures the necessary guarantee of full discussion and mature deliberation, a Legislative Council was established in 1888 under a Regulation defining its constitution and working. It now consists of eight members, of whom three are non-officials, with the Dīwān as the *ex-officio* president. The maximum strength of the Council is fixed at fifteen, of whom not less than two-fifths must be selected from outside the State service. Every legal measure is first introduced in the Council and printed in the Government Gazette for criticism by the public. After being considered and passed by the Council, it is submitted to the Mahārājā for approval and to the Madras Government for sanction, and becomes law only when it has received the assent of both. In cases necessitating immediate legislation, a Regulation may be passed without the intervention of the Council, but its operation is limited to a period of six months. The scope of this Council does not include the relations of the State with the British Government, the extradition of criminals, European British subjects, seaports, post office, telegraphs, railways, &c. Since the establishment of the Council, 58 Regulations have been brought into existence and have served to remodel the laws of the country on principles suited to present local conditions.

Civil and criminal justice.

The present judicial machinery of the State, which is the outcome of the administrative measures of nearly three-quarters of a century, consists of twenty-five courts exercising civil, and sixty-four courts exercising criminal jurisdiction, all of which are subject to a High Court at Trivandrum. The lowest civil court is that of the Munsif (there are twenty of these), and its ordinary jurisdiction extends to suits up to Rs. 1,000 in value. Five Zila or District courts are located at the towns of Nāgercoil, Trivandrum, Quilon, Alleppey, and Parūr, which hear appeals from the decisions of Munsifs and try suits exceeding Rs. 1,000 in value, and also all suits to which the Government is a party. The High Court, which is the final appellate authority, consists of a Chief Justice and three Puisne Judges, one of whom is usually a European. It has no original jurisdiction, and hears appeals in suits of the value of Rs. 2,500 and under through a division bench of two Judges, and appeals of above that value through a full bench of three Judges. In the latter class of cases, the decisions have to be approved by the Mahārājā.

For the administration of criminal justice there are five Sessions courts, which exercise original jurisdiction in Sessions

cases and hear appeals from the six District magistrates, and seven first-class, thirty-nine second-class, and seven third-class magistrates. The High Court hears only appeals; and all sentences of death or imprisonment for life passed by a Sessions Court and confirmed by it have to be submitted for the approval of the Mahārājā. Besides these courts, there are special magistrates, who are European British subjects and Justices of the Peace, for the trial of Europeans. These justices have powers to sentence up to three months' imprisonment and Rs. 1,000 fine. Appeals from them lie to the European Judge of the local High Court. The British Resident is also a Justice of the Peace with the powers of a Sessions Judge over European British subjects, and appeals from him lie to the High Court of Judicature at Madras. Europeans are within the jurisdiction of the ordinary courts in regard to all civil matters and also in cases of contempt.

Crime in the State does not present any features worthy of special note. The inhabitants are very peaceable and law-abiding, and the acute distress which is generally an incentive to crime is comparatively unknown. The usual offences are petty thefts and assaults. The *tāluks* bordering on the Tinnevelly frontier near and about the Aramboli Pass are occasionally subject to the raids of Maravan robbers, but the sense of security within the country itself is proverbial and people generally prefer to travel during the night. Civil litigation, however, is fostered to some extent by the minute subdivision of property and the peculiar system of inheritance.

Registration.

A separate department exists for the registration of deeds, which is controlled by a Director. The State is for this purpose divided into three districts with a District Registrar for each, and subdivided into 51 registry offices each under a sub-registrar. The average area and population served by each registry office are 139 square miles and 57,885 persons respectively. In 1903-4 the number of documents registered was 180,361, of which 97 per cent. related to immovable property. The average value of each document was Rs. 220.

Finance.

The total revenue increased from an average of Rs. 69,01,050 during the decade 1881-90 to Rs. 89,88,900 during the decade 1891-1900, or by 30 per cent. In 1903-4 the total revenue was Rs. 1,02,01,900. The decennial averages for the main heads of revenue are shown on the following page, together with the actual receipts in the last official year.

A considerable increase has occurred under all the items, but it has been brought about without the imposition of

additional burdens on the people. Indeed, during the last half-century more than a hundred miscellaneous taxes and cesses have been abolished; the land tax has been reduced in several areas; inequalities in the public burdens have been removed by the withdrawal of special demands, such as succession duties, &c., which pressed on certain classes of the population; the State monopolies in pepper, tobacco, and cardamoms have been abandoned; trade has been freed from fiscal restrictions; and industries have been promoted by the remission of the export duties on many articles and by liberal reductions on others. As a consequence, the State revenues have nearly trebled during this period.

Main sources of revenue.	Average for 1881-90.	Average for 1891-1900.	Receipts in 1903-4.
	Rs.	Rs.	Rs.
Land revenue	17,98,255	21,28,314	22,97,488
Salt	15,09,017	19,55,300	19,27,837
Customs	5,03,388	6,86,865	8,92,444
Tobacco	8,46,874	10,11,845	12,32,594
Abkāri and opium	3,46,602	6,32,572	8,41,413
Cardamoms, timber, and other forest produce	5,73,441	6,67,100	7,83,094
Stamps	1,84,140	3,59,034	4,49,674

With this enormous growth in the revenue, the expenditure has more than kept pace. The average expenditure increased from 66·4 lakhs during the decade 1881-90 to 88·1 lakhs during the decade 1891-1900, or by 32 per cent. The percentage of expenditure on income was 96 in the former, and 98 in the latter, period. During the two years 1901-3 the expenditure outstripped the income by more than 12 lakhs, and the actual expenditure in 1903-4 amounted to 106 lakhs. This steady increase in expenditure has been in directions calculated to promote the best interests of the people, as the following figures show:—

Main items of expenditure.	Average for 1881-90.	Average for 1891-1900.	Expenditure in 1903-4.
	Rs.	Rs.	Rs.
Law and justice, including police and jails	4,96,885	7,11,665	8,18,440
Education	2,31,137	3,90,431	6,63,345
Medical institutions, including vaccination and sanitation	1,53,547	3,13,006	4,10,018
Public works	10,64,837	18,59,476	26,83,081

The financial policy of the State, however, has always been so to adjust expenditure to income as to leave a small surplus from year to year, a policy which the steady expansion of the revenues has made it possible to carry out, even after fully meeting the growing requirements of progressive administration. The amounts thus saved aggregate 90 lakhs, of which 60½ lakhs are invested in Government of India and other securities, bringing in an interest of Rs. 2,60,000. This reserve fund is now being utilized in the execution of a few important public works, and will be drawn on still further should the current finances incline towards an equilibrium between income and expenditure.

The State has its own currency, the coins being minted in the State mint at Trivandrum. The coins current are silver pieces of 2 chakrams (1 anna 1·47 pies of British Indian currency); 4 chakrams, called the fanam; quarter of a rupee, valued at 7 chakrams (3 annas 11·16 pies); and half a rupee, valued at 14 chakrams; and copper pieces of 1 cash (0·42 of a pie); 4 cash; 8 cash; and 1 chakram, valued at 16 cash. There is, however, no rupee coin, the Travancore rupee being valued at 28 chakrams (15 annas 8·63 pies), and the British Indian rupee being thus equivalent to 28 chakrams 8 cash. The silver coins of British India circulate freely throughout the State.

Land revenue administration.

The system of land tenures is of a peculiarly complicated nature. It is *ryotwāri* in principle, the settlement being made directly with individual ryots; but while some lands are subject to full assessment, others pay only a nominal rate, and others again enjoy complete exemption. The numerous tenures fall under two major heads—*janmam* and *sarkār*. The *janmam* lands are of three kinds: those which are absolutely exempt from tax, the normal condition of *janmam* lands; those which are tax-free so long as they remain with the original proprietors, but become liable to tax when they are transferred to other hands; and those subject *ab initio* to a light quit-rent. The *sarkār* lands are of more than sixty varieties. Some of these are freehold and enjoy absolute exemption from tax, others are favourably assessed, and the rest fully assessed. The chief varieties of *sarkār* lands are (1) *kuttagapāttom*, a tenure applied only to isolated tracts, such as the Palliport farm and the Pulienturuttu lands, which are leased to individual ryots for comparatively short periods; (2) *vempāttom*, the most prevalent and the simplest of the tenures, under which the land pays full assessment; (3) *otti*, which is in the nature of a mortgage, the

parties to the transaction being the State on the one side and the ryot holding the land on the other, the consideration being either actual cash borrowed by the State or something equivalent to it, and interest being allowed on these loans and deducted from the full assessment; and (4) *vritti* tenures, or service *ināms*.

The administration of the land revenue is based on the settlements of 1802 and 1836. According to these, the average assessment on 'wet' lands amounts to Rs. 2, and on garden lands to Rs. 1-2-8 per acre. To remedy the defects and imperfections of previous settlements, a comprehensive scheme of revenue survey and settlement was introduced in 1883. The survey has been almost completed. Eight *tāluks* have been settled, and have yielded an increase in revenue amounting to over Rs. 1,20,000. The incidence of the assessment is Rs. 4 on 'wet' land, and about R. 1 on garden and 'dry' land per acre.

Customs. By the Interportal Convention of 1865, the State agreed to give up all import duties on British Indian produce, with the exception of tobacco, salt, opium, and spirits, but claimed, in the form of a guarantee or drawback, the revenues realized in British Indian ports on foreign produce re-exported to Travancore. The Darbār also agreed to lower its export duty to 5 per cent. *ad valorem* on all articles except pepper, dried betelnuts, and timber, and to reduce the duty on tobacco to the extent of Rs. 1,00,000 a year.

Salt. The salt consumed in the country is partly made within it, but mostly procured from Bombay. At three places in south Travancore—Tamarakulam, Rājakkamangalam, and Variyūr—salt is manufactured in State pans, the manufacturers being paid Rs. 0-1-8 per maund ($82\frac{2}{7}$ lb.) of salt delivered into the State stores. The Bombay salt is delivered by contractors, engaged by public auction, at the Travancore ports of Munambam, Alleppey, Quilon, and Trivandrum. From these it is conveyed to various *bankshalls* (warehouses) distributed over the country. There are sixty-seven of these *bankshalls*, and salt is sold at them to the public at uniform rates, which are slightly higher in the case of the Bombay product than in that of the locally made salt. The present duty per maund is Rs. 1-8, and the selling price is placed somewhat higher to cover the cost of establishment, transport, &c. Under the Interportal Convention with the British Government, the duty on salt is enhanced or reduced in accordance with the British Indian rates.

About 26,000 tons of salt are consumed per annum. Of

this, 20,000 tons come from Bombay, and the rest is the home product. The gross revenue on account of salt in 1903-4 was Rs. 19,28,000. Deducting the charge for establishment, &c., the net revenue amounted to Rs. 14,63,000.

In two of the four divisions in the State, Kottayam and Quilon, the supply of alcoholic liquor is worked under the farming system, while in Padmanābhapuram and Trivandrum the excise system has lately been introduced. In the farming tracts, the police exercise the necessary powers of detection, &c., while in the excise tracts the *ābkāri* officers perform this duty. Three *tāluks* of the Trivandrum Division are supplied with toddy arrack procured through a contractor from north Travancore and Cochin, while the remaining *tāluks* of the two excise divisions are supplied with jaggery arrack manufactured by a contractor at his distillery at Nāgercoil. Still-head duties on the different kinds of liquor are levied by the State. The import and sale of European liquor are also regulated by law. Licences are issued for the sale of this on payment of fees of Rs. 50 and Rs. 30 for wholesale and retail vend respectively. The gross *ābkāri* revenue in 1903-4 was Rs. 7,86,000, and the expenditure was Rs. 22,000. *Abkāri.*

The right to sell opium is leased for terms of three years. The contractor procures his supply from the Government storehouse at Madras, after paying the requisite price and duty into the British Resident's treasury and obtaining the necessary passes for its transport. No separate establishment is maintained for collecting the revenue. The contract includes the right of selling *bhang*. Opium.

Jaffna, Coimbatore, and Tinnevelly tobaccos are consumed in the State. The tobacco when imported is bonded by the importers in official warehouses, which are six in number and located at Kottār, Trivandrum, Quilon, Alleppey, Mūvattupula, and Alwaye. When it is removed from these buildings, a uniform duty of Rs. 90 per candy is paid to the State, irrespective of quality. In 1903-4 the gross revenue from tobacco amounted to Rs. 12,32,000. Deducting charges, the net revenue was Rs. 11,81,000. Tobacco.

Till 1894 the sanitation and conservancy of urban and rural areas were attended to by the local revenue and magisterial officers. Since then the urban areas—Trivandrum, Nāgercoil, Quilon, Alleppey, and Kottayam—have been placed under town improvement committees, analogous to the municipal councils of British India, composed of official and non-official members with a president as the executive head, all nominated Sanitation.

by the State. A separate Regulation guides their working. The expenses are met out of the State revenues and no municipal taxes are as yet levied. In 1903-4 about Rs. 55,000 was spent on the five towns. The sanitation of rural areas is attended to by a separate Sanitary department, organized in 1895, and placed under the charge of a Sanitary Commissioner. The general appearance of the towns and the health of the country have perceptibly improved since the introduction of these measures.

Public works.

For the execution of public works there are two departments, the Public Works department proper under the Chief Engineer, and the Marāmat ('repairs') department, under the general administrative officers. All works of importance requiring considerable scientific knowledge are entrusted to the former, while the charge of works connected with palaces, temples, and rest-houses, the construction of village roads, ordinary tank repairs, and the distribution of water for irrigation in south Travancore, rest with the latter. The Marāmat department was organized in 1833 and the Public Works in 1860. In 1900-1 the total outlay amounted to 22·3 lakhs, or 23 per cent. of the State revenue, 17·39 lakhs being spent by the Public Works and 4·9 lakhs by the Marāmat department. In 1903-4 the proportion of the revenue devoted to public works was 26 per cent. During the last twenty years, numerous works of public utility have been constructed, such as the Women and Children's Hospital, the Central jail, the Leper and the Lunatic Asylums, the Girls' College, the Female Normal School, the Industrial School of Arts, the golf grounds, the Banqueting Hall, the Victoria Jubilee Hall, the public library, all at Trivandrum; and, outside it, the District courts at Parūr, Alleppey, and Nāgercoil; Munsifs' courts, *tāluk* and other public offices, several hospitals, police stations, &c. Many rivers, the Parappār, Vāmanapuram, Tiruvattār, Palayār, &c., have been bridged, and several miles of new road opened. Under miscellaneous engineering works may be mentioned the installation of gaslight at the capital, and the reconstruction and extension of the pier at Alleppey.

Troops.

The State maintains a small force of artillery for saluting purposes, a bodyguard for the Mahārājā of sixty-one mounted men, and the Nayār Brigade of infantry. The last consists of 1,442 men officered from the Indian Army and divided into two battalions, of which one is armed with breech-loading carbines, and the other, which is chiefly employed on guard duties, with breech-loading muskets.

Police and jails.

The present police force was organized in 1881; before that the Dīwān Peshkārs or divisional officers, the *tahsīldārs*, and sub-magistrates exercised police functions. The department is under the control and management of a Superintendent, and there are three police divisions, each in charge of an Assistant Superintendent. Exclusive of these officers, the force numbered 1,743 men in 1903-4. Of these, 318 were employed in the reserve, as jail guards and so forth, so that 1,425 men were engaged in purely police duties. They worked under 44 inspectors, and occupied 65 police stations and 118 sub-stations. The proportion of the effective strength to area and population was 1 to every 4·9 square miles and 2,071 persons. The average cost per policeman was Rs. 136 per annum. There are no rural police, as in British Districts.

Three prisons are maintained in the State: the Central jail at the capital, under a Superintendent; and two District jails, one at Quilon and the other at Alleppey, under the District magistrates. A jail is also attached to the District Courts of Nāgercoil and Parūr for lodging under-trial prisoners and civil debtors. The Central jail contained in 1903-4 an average daily strength of 438 prisoners. The cost of maintaining each prisoner was Rs. 106 per annum, or, if the value of convict labour is taken into account, Rs. 69.

Education.

At the Census of 1901 it was found that 12·4 per cent. of the population (21·5 males and 3·1 females) were able to read and write, a very high proportion compared with most other parts of India. The history of the education of the people by State agencies dates back to 1834, when an English free school was opened at Trivandrum, which afterwards developed into the present Arts college. Shortly afterwards, schools were started in the chief out-stations to serve as feeders to the free school. In 1866 a system of State vernacular education was organized, and now every year sees the opening of new schools and an increased number of boys and girls brought under instruction. In 1890-1 there were 2,418 institutions of all classes and grades, with 104,616 pupils. By the end of the next decade, the numbers had increased by more than one-half. Of the total of 3,727 institutions returned in 1903-4, 439 were State schools, 1,040 private aided, and 2,248 private unaided. The pupils under instruction in these three classes of institutions numbered respectively 51,169 (26 per cent. of the total), 59,430 (30 per cent.), and 86,786 (44 per cent.). Of the total number of institutions, 3,525 were primary, 169 secondary, and 28 training or special schools, besides 6 colleges.

Classified by sex, the pupils numbered 151,053 boys (77 per cent. of the total) and 46,332 girls (23 per cent.); grouped by religion, 63 per cent. were Hindus, 32 per cent. Christians, and 5 per cent. Muhammadans. The most noticeable feature in the educational statistics of recent years is the great advance made in female education. With the spread of institutions for their instruction, the number of girl pupils more than trebled during the decade 1881–90, and more than doubled during the next decade. In 1903–4 female education was provided for in 2 Arts colleges, 3 English high schools, 1 vernacular high school, 7 English middle schools, 33 vernacular middle schools, and 138 vernacular primary schools. Education is free in all these institutions. Another feature in the educational history of the State is the effort made to bring the backward classes and the hill tribes under instruction, by the opening of special schools and the sanction of increased grants, &c. In 1903–4 about 44,000 of these people were under instruction in 480 public schools. Five institutions situated on the hills are mainly intended for the hill tribes. The part played by the missionary bodies in the diffusion of education among all classes, and among the depressed in particular, is very considerable.

The total expenditure on education amounted in 1903–4 to 6.6 lakhs, of which about 1·3 lakhs was derived from fees, &c. Of this total 27·4 per cent. was devoted to primary schools.

The State maintains two Arts colleges at Trivandrum, one for boys, teaching up to the B.A. standard, and the other for girls, teaching up to the F.A. standard; and also a law college. In addition, three private colleges—the Scott Christian College at Nāgercoil, the Holy Angels' Convent College at Trivandrum, and the Church Missionary Society's College at Kottayam—teach up to the F. A. standard. Of the six training schools, two are maintained by the State, one for male, and the other for female teachers. There are twelve special schools: the Sanskrit College, the Industrial School of Arts, and the Reformatory, all at Trivandrum and under State management; eight aided schools, the Srī Mūla Rāma Varma Technical Institute at Nāgercoil, two schools for carpentry at Mulakumūd and Attingal, and also two schools in these places for teaching girls lace-making, the Native Technical Institute at Trivandrum, the Rāma Varma Technical and Industrial School at Changanācheri, and the Church Missionary Society's Industrial School at Kottayam; and one private (unaided) institution, the technical school for carpentry at Takkalai. The work in the State

Industrial School comprises two branches: industry, including lacquer-work, carpet-weaving, carving, &c.; and art, comprising drawing, design and painting. The school holds a prominent position among those of Southern India. At the recent Delhi Exhibition, Travancore ivory-carving won a gold medal. The extraction of fibre from plantains and the weaving of cloth and turbans promise to be the source of a large and profitable industry, though further improvements are still required.

For purposes of administrative management and inspection, the State is divided into three educational ranges, each under an Inspector in direct correspondence with the Dīwān. The vernacular and the English schools, which till 1894 were under separate officers, have all been placed under the Inspectors, excepting the chief State institutions at the capital. A text-book committee selects or arranges for the preparation of suitable textbooks.

The Press. For many years the only newspaper in Travancore was an English journal published at Nāgercoil, which was started under mission auspices. Of late, the development of the press has been very rapid; and there were in 1900–1 twelve vernacular papers and magazines, and three English newspapers. By 1903–4 the numbers had increased to nineteen and five respectively. The vernacular papers have an average circulation of 850 copies, ranging from 2,500 to 225. One of them deals with social, one with educational, six with religious, and eleven with general and political topics.

Medical. Travancore is liberally supplied with hospitals and dispensaries. Taking the State and aided institutions together, there is one to every 25,896 of the population and to every 62 square miles of the total area, or every 21 square miles of the occupied area. The State institutions comprise 22 hospitals and 30 dispensaries, with accommodation for 1,215 in-patients. In 1903–4, 15,700 in-patients and 608,000 out-patients were treated at them, 26,700 operations were performed, and the expenditure was Rs. 2,73,000.

The missionary bodies also administer relief to the sick at their chief centres. Foremost among the State institutions are the General Hospital, opened in 1865, which contains accommodation for 104 in-patients; the Taikkād Hospital, with 130 beds, founded in the third decade of the last century; the Women and Children's Hospital, with 35 beds, under a qualified lady doctor; and the Maternity Hospital, with 42 beds—all these being located at Trivandrum. The Victoria Jubilee Hospital at Quilon contains 22 beds. The State further maintains at

the capital two special institutions, one for lunatics and another for lepers. In 1903–4, 164 patients were treated in the former and 243 in the latter. The whole Medical department is under the charge of an officer of the Indian Medical Service, who is also Physician to the Mahārājā and is styled the Darbār Physician. At a veterinary hospital at Trivandrum 224 animals were treated in 1903–4.

Vaccination. Vaccination is carried on by the Sanitary department, with a staff of 80 vaccinators, including eight women. A vaccine dépôt is established at the capital, where calf-lymph is prepared under the direction of a specially trained medical graduate and distributed to the several stations. Vaccination is not compulsory, but the number of operations performed in 1903–4 was 150,000 or 50 per 1,000 of the population.

[For further particulars of the State, see the Census Reports of 1891 and 1901.]

Agastyamalai (or *Agastya-kūtam*).—A conical isolated mountain peak in the southern portion of the Western Ghāts, situated in 80° 37′ N. and 77° 15′ E., in the Neyyāttinkara *tāluk* of Travancore State, Madras. It is locally known as the Sahya Parvatam and is 6,200 feet high. The boundary between Travancore and Tinnevelly District runs over it. It was formerly an important astronomical station, where two series of observations were taken by Mr. Broun between 1855 and 1865. Two rivers rise from this hill, the sacred TĀMBRAPARNI running east through Tinnevelly District, and the Neyyār flowing west through the Neyyāttinkara *tāluk* of Travancore. The orthodox believe that the sage Agastya Maharshi, regarded by modern scholars as the pioneer of Aryan civilization in Southern India and the name-father of the hill, still lives on the peak as a *yogi* in pious seclusion.

Alleppey (*Alapulai*).—Chief seaport and third largest town in Travancore State, Madras, situated in 9° 30′ N. and 76° 20′ E., in the extreme north-west of the Ambalapulai *tāluk*, a small portion extending into the adjacent *tāluk* of Shertallai. It is 49 miles north of Quilon, the terminus of the Tinnevelly-Quilon Railway, and 35 miles south of Ernākulam, the terminus of the Cochin-Shoranūr Railway. Population (1901), 24,918, including 11,940 Hindus, 7,150 Musalmāns, and 5,827 Christians. A sandy tract, overgrown with jungle till the middle of the eighteenth century, it was cleared and created a port by Mahārājā Rāma Varma, in order to put an end to the commercial supremacy of the Dutch, who with their factory at Porakad had monopolized all the north Travancore commerce.

Foreign merchants settled there on invitation and the port was opened to foreign trade. To facilitate the transport of merchandise, a canal was cut to connect the port with the interior backwaters. Towards the close of the eighteenth century warehouses and shops were built at State expense, a system of forest conservancy was introduced, and officers were appointed to collect and forward all hill-produce to Alleppey. The town soon increased in importance, and by the first quarter of the last century it had become the premier port of Travancore, a position which it still maintains. It is a convenient dépôt for the storage and disposal of all forest produce, and possesses a harbour affording safe anchorage during the greater part of the year. This is formed by the natural breakwater which exists in the roadstead in the shape of a remarkable mud-bank, or floating mud-island, which breaks the force of the roughest seas and ensures shelter to vessels in the roadstead. A lighthouse at the entrance to the harbour bears a revolving light visible about 20 miles out at sea. A tramway worked by coolies conveys goods from the pier to the warehouses close by.

Several oil-mills are in operation, and the manufacture of coir matting is carried on to a large extent. The chief exports are copra, coco-nuts, coir, coir matting, cardamoms, ginger, and pepper. The imports consist of rice, Bombay salt, tobacco, metals, and piece-goods. The customs revenue from exports averages about Rs. 1,90,000 per annum and from imports Rs. 10,000. The harbour returns show that shipping with an annual tonnage of 280,585 (steamers 260,000 tons and sailing vessels 20,585 tons) touch at the port.

In 1894 the town was placed under a town improvement committee, and since then Rs. 5,000 has been spent annually by the State on its improvement and conservancy. The place contains the courts of a District and Sessions Judge, a Munsif, and the District first-class and second-class magistrates.

Alwaye.—A station on the Cochin-Shoranūr Railway and the head-quarters of the Alengād *tāluk*, Travancore State, Madras, situated in 10° 7′ N. and 76° 22′ E., on the river Alwaye (Periyār), on whose banks the famous religious reformer Sankarāchārya was born. Population (1901), 3,645. The early Portuguese used Alwaye as their favourite bathing-place and called it Fiera d'Alva, and it is still a sanitarium much resorted to during the hot months by the better classes. A Siva temple in the bed of the river attracts a large concourse of people on the Sivarātri day in February. The chief market of the *tāluk* is held twice a week, and a large trade exists in grain,

fish, and cattle. Besides the magistrate's court and a sub-registrar's office, the town contains a police station, post office, district hospital, and customs house.

Ambalapulai.—Head-quarters of the *tāluk* of the same name in Travancore State, Madras, situated in 9° 23′ N. and 76° 22′ E., 10 miles south of Alleppey, with which it is connected by a canal. Population (1901), 1,791. The shrine of Krishnaswāmi is visited by large numbers of pilgrims. Till the middle of the eighteenth century the place was the capital of an independent kingdom of the same name, ruled by the Chempakasseri Rājās, who were Nambūdri Brāhmans of the Chempakasseri Illam (house) of Kotamālūr in the Ettumānūr *tāluk*. As rulers they bore the generic name of Deva Nārāyanan. As one of them had assisted the Kāyankulam chieftain against the ruler of Travancore, an army was led against him in 1748 by the latter's minister, Rāma Ayyan Dalawa, who took and imprisoned the Rājā and annexed the principality to Travancore.

Anaimudi (Elephant's forehead).—A peak of the Western Ghāts, in the extreme north-east of Travancore State, Madras, situated in 10° 10′ N. and 77° 4′ E. It is 8,837 feet above the sea and the highest point in Southern India. Though very precipitous, it is accessible from the north and with less ease from the east. From the top is obtained a magnificent view over the Madras Districts of Coimbatore, Madura, and Malabar, and the States of Travancore and Cochin. On a fine day, the sea can be seen on the west, the intermediate hills and forests making a splendid foreground to the picture, while to the north rise the great ANAIMALAI HILLS, on the north-east stretch the plains of Coimbatore, the Nīlgiri plateau, and the Anchanād valley; in the south rise the CARDAMOM HILLS and the range beyond PĪRMED; and in the south-east a glimpse of the Bodināyakkanūr valley is seen. Round Anaimudi are clustered a number of other peaks of nearly the same elevation, running in a horseshoe, the opening of which lies towards the north-east. The low valleys between these hills drop to 3,000 or 2,000 feet. The whole area, extending over 100 square miles, forms the plateau known as the High Range. The greater part of this is covered with fine short grass, with stretches of heavy forest on the lower ground. Before tea and coffee estates were opened, this was a famous place for game of all kinds; but now the Nīlgiri ibex and the bison are the only animals found in any considerable numbers. Small game may be said to be entirely absent. Elephants visit the plateau in large numbers during the south-west monsoon. Some of the most valuable

trees of Travancore grow here and in the adjoining Anchanād valley.

Ariankāvu.—Village, pass, and shrine in the Shencottah *tāluk* of Travancore State, Madras, situated in 8° 59′ N. and 77° 9′ E., in a circular valley about a mile from the head of the pass, 54 miles from Trivandrum, 50 from Quilon, and about 50 from Tinnevelly. Population (1901), about 1,000. The principal line of road from Tinnevelly via Shencottah into Travancore passes by this village, as also does the Tinnevelly-Quilon Railway. The extension of the tea- and coffee-planting industry has increased its importance. It contains a temple of great antiquity dedicated to Sāsthā, which is asserted to have been built by Parasu Rāma. It lies in a hollow surrounded by hills. The whole of the pass, about 18 miles in length, presents a succession of grand forest scenery.

Attingal.—Village on the banks of the Vāmanapuram or Attingal river, in the Chirayinkīl *tāluk* of Travancore State, Madras, on the high road from Trivandrum to Quilon, situated in 8° 40′ N. and 76° 48′ E. Population (1901), 3,889. It is the chief place in the Attingal *proverti*, the hereditary estate of the Rānīs of Travancore. Captain Nieuhoff, who gives almost the earliest description of it, observed in 1664 that 'the ancient race of the kings of Travancore owed its origin to Attingen.' The senior princess of the Travancore royal family is known as the Attingal Mūtta Tampurān. The installation of the Rānīs takes place here, and the Mahārājā pays a state visit to the village every January.

Cardamom Hills.—Range of hills in Travancore State, Madras, situated between 9° 26′ and 10° 8′ N. and 76° 40′ and 77° 7′ E., south of the Anaimudi group. They form an elevated plateau at a height of 3,000 to 3,500 feet, with peaks and hills running up to 5,000 feet, and comprise the High Range in the north, the Cardamom Hills proper in the centre, and those of PĪRMED in the south. Area, about 1,000 square miles; population (1901), 21,589. Though not a distinct revenue division, they form a separate division for magisterial and certain other purposes, under the charge of a Superintendent and District magistrate assisted by a first-class magistrate located at Pīrmed. Cardamoms formed a State monopoly till 1896, when a system of land-tax was introduced. The ryots now receive permanent occupancy rights, with the power to relinquish their holdings at will. They are mostly natives of neighbouring British Districts, and own no property in Travancore except these cardamom lands. In 1903-4 the area under

cultivation was 13,698 acres, of which 12,579 acres paid the prescribed assessment of Rs. 6–4 per acre. Since the abolition of the monopoly, European capital has thrown itself largely into this enterprise. Viewed from the economic and industrial aspect, however, the chief value of the hills lies less in their eminent suitability for cardamom cultivation than in the fact that they are now the chief seat of the tea-planting industry. A large amount of British money has been invested in this enterprise, the capital of one company alone amounting to a million sterling. The High Range is the centre of the greatest activity, and is the largest and most compact tea-district in all South India. The hills are tapped by roads and bridle-paths, which connect them with the Cochin State and the sea on the west and with the British Districts on the east. The expenditure by the Travancore State on public works in this area in 1903–4 was Rs. 1,47,000. The Cardamom Hills are provided with civil and criminal courts, police stations, post offices, hospitals, telegraphic and telephonic lines, schools, &c.

Changanācheri.—Head-quarters of the *tāluk* of the same name in Travancore State, Madras, situated in 9° 26′ N. and 76° 36′ E., 38 miles north of Quilon and about the same distance from Cochin, on rising ground washed by the eastern borders of the Kuttanād delta. Population (1901), 14,264, made up of 7,317 Hindus, 1,822 Musalmāns, and 5,125 Christians. It possesses the finest Syro-Roman church on the Malabar coast. A market, the best attended in all north Travancore, is held twice a week, at which the chief trade is in rice, pepper, dry ginger, areca-nuts, and piece-goods. The town was formerly the capital of the Tekkumkūr principality; it was taken by Rāma Ayyan Dalawa, minister of Mahārājā Mārtānda Varma, in 1750, and annexed to Travancore.

Comorin (*Kanniyākumārī*).—Village, shrine, and headland in the Agastīswaram *tāluk* of Travancore State, Madras, situated in 8° 5′ N. and 77° 33′ E. It is the extreme southern point of the Indian Peninsula, from which the chain of the Western Ghāts runs northwards. Population (1901), 2,368. On the sea-shore and at the apex, as it were, of the Indian Peninsula stands the temple of Kanniyāmbāl 'or the virgin goddess,' celebrated for its sanctity. It is one of the most important places of pilgrimage in Southern India. In the *Periplus*, reference is made to a harbour here, but none exists now. Ordinary sailing vessels frequently touch here, however, and the State authorities contemplate making it a port. It contains a palace of the Mahārājā and one of the Residencies in Travancore.

Edappalli (the Repleim of Dutch writers).—The largest of the *idavagays*, or petty principalities, of the Kunnatnād *tāluk*, Travancore State, Madras, situated in 10° 1′ N. and 76° 22′ E., with an area of 6½ square miles. Population (1901), 13,348. It is held by a Nambūdri Brāhman of the highest rank, who is called the Edappalli Rājā but has no civil or criminal authority within the principality. He is entitled to all the revenue from his lands, and holds them free of tax or tribute to the Travancore State, except a small sum of money for police services rendered. The residence of the Rājā is at Edappalli, now a station on the Cochin-Shoranūr Railway. The Edappalli chiefship is believed to be the sole relic of the ancient theocracy of the west coast.

Kāyankulam.—Town on the backwater of the same name in the Kārtikapalli *tāluk* of Travancore State, Madras, situated in 9° 11′ N. and 76° 30′ E. Population (1901), 5,745. Formerly the capital of an independent principality known as Onād, it held an equal position with Venād, or Travancore. In the sixteenth century it was an important harbour where the Portuguese had a factory. The Onād Rājā was the earliest Malabar ally of the Dutch. After a protracted war, he submitted to Travancore in 1746. In A.D. 829 one of the earliest Syrian Churches was founded here. The place has a well-attended market and a magistrate's court.

Kilimanūr.—An *idavagay*, or petty principality, in the Chirayinkīl *tāluk* of Travancore State, Madras, situated in 8° 46′ N. and 76° 52′ E. Population (1901), 3,053. It is a freehold estate belonging to the Koil Tampurāns, who are allied by marriage to the Rānīs of Travancore and thus to the reigning family. The estate was granted about 1728, in recognition of the bravery with which a Koil Tampurān saved a Rānī and heir-apparent to the throne of Travancore from their enemies.

Kolachel.—Seaport in the Eraniel *tāluk* of Travancore State, Madras, situated in 8° 11′ N. and 77° 18′ E. Population (1901), about 1,000. From 15 to 20 steamers and 40 to 50 native craft touch at it annually during the shipping season, September to April. The principal exports are jaggery (coarse sugar), coffee, salted fish, palmyra fibre, coir, and timber; and the chief imports are rice, Bengal gram, crockery, and iron. It was once the site of an indigo factory. The place is referred to by Bartolomeo as a safe harbour well-known to the ancients, and was occupied for a time by the Danes; the Dutch sustained a signal defeat here at the hands of Rāma Ayyan Dalawa, commander of the Travancore forces, in 1740, from

which date began the decline of their power on the west coast.

Kottār (the *Kottiara Metropolis* of Ptolemy; the *Kottara* of the Peutinger Tables; the *Mummudi Cholapuram* of the Chola period).—Suburb of Nāgercoil town, in the Agastīswaram *tāluk* of Travancore State, Madras, situated in 8° 10′ N. and 77° 26′ E. Population (1901), 3,747. Formerly an independent town with considerable traffic, visited by merchants from far and near, it is still the chief trading centre in south Travancore. Weaving is largely carried on, and cloths of very fine texture are manufactured. It contains a Roman Catholic church and an English high school.

Kottayam.—Head-quarters of the *tāluk* of the same name in Travancore State, Madras, situated in 9° 36′ N. and 76° 31′ E., on the banks of the Mīnachil river which runs into the Vembanād lake, connected with the great Cochin estuary. Population (1901), 17,552, consisting of 9,414 Hindus, 672 Musalmāns, and 7,466 Christians. The place is a centre of the Syrian Christian community, whose church here is one of the most ancient on the west coast. It contains two high schools owned by the Syrian Bishops, which are known as the Mar Dionysius and Mar Thoma seminaries. The Church Missionary Society has been at work here since 1816, and owns a flourishing college and a high school. There are several printing presses, and seven newspapers and journals are published in Malayālam. Standing on the threshold of the communications with the Pīrmed range of hills, the town serves as a convenient mart for the exchange of goods.

Marutvamalai.—Isolated hill, forming the southernmost extremity of the Western Ghāts, in the Agastīswaram *tāluk* of Travancore State, Madras, situated in 8° 8′ N. and 77° 35′ E., about 5 miles north-west of Cape Comorin. Tradition regards it as having been dropped from the Oshadhi Parvatam or 'medicine hill' while this latter was being taken by Hanumān from the Himālayas to cure the wound of Lakshmana sustained during the battle with Rāvana's forces. It is still believed to be the abode of sages and to contain many species of rare medicinal herbs.

Nāgercoil (*Nāgarkovil*, 'the temple of the serpent').—Town in the Agastīswaram *tāluk* of Travancore State, Madras, situated in 8° 10′ N. and 77° 27′ E., within 7 miles of the Aramboli Pass. Population (1901), 25,782, consisting of 20,045 Hindus, 2,570 Musalmāns, and 3,167 Christians. Once the capital of Travancore, it is now the head-quarters of a District and Sessions Judge, a Munsif and other officials, and

also of the London Missionary Society. It contains a college, schools, and a hospital. The native Christian women turn out fine lace which commands a brisk sale.

Padmanābhapuram (*Palpanāveram*).—Town in the Kalkulam *tāluk* of Travancore State, Madras, situated in 8° 15′ N. and 77° 24′ E., about 32 miles south of Trivandrum. Population (1901), 3,257. This was the most important of the ancient capitals of Travancore. It is surrounded by a square fortification, now fast going into ruins, 2½ miles in circumference, constructed about 1757 under the supervision of a Flemish captain named De Lannoy. The Mahārājā's palace within is the most attractive feature of the town. The place is the head-quarters of the Padmanābhapuram division (district), and contains the magistrate's and Munsif's courts and other public offices.

Parūr (*Paravūr*).—Head-quarters of the *tāluk* of the same name in Travancore State, Madras, situated in 10° 10′ N. and 76° 15′ E., about 17 miles north of Ernākulam, the southern terminus of the Cochin-Shoranūr Railway. Population (1901), 12,962, including almost all the Jews of Travancore. A Rājā of Parūr once ruled here. At one time the place belonged to Cochin, but it was made over to Travancore in 1762. It was then converted into a military station for the frontier troops. Tipū, in his second invasion of Travancore, destroyed a great portion of it. It is now a busy trading centre, and contains the courts of a District and Sessions Judge, a Munsif and a magistrate, and other public offices.

Pīrmed.—Hill station on the Pīrmed range of hills, forming the southern portion of the Cardamom Hills, Travancore State, Madras, situated in 9° 33′ N. and 76° 59′ E. Population (1901), 9,932. Its general elevation is from 3,000 to 3,500 feet. Around it are thirty tea estates owned by Europeans, containing about 8,000 acres under crop. Roads connect the station with Changanācheri, Kottayam, Trivandrum, and other important places on the west, and with Madura District on the east. It is the head-quarters of the first-class magistrate and Assistant to the Superintendent and District Magistrate of the Cardamom Hills, and contains postal and telegraph offices. Pīrmed is supposed to be an abridgement of *Pīr-medu* ('Pīr's hill') and to have been so called because a Musalmān saint named Pīr Muhammad once lived here in seclusion.

Ponmudi.—A picturesque hill in the north-east of the Nedumangād *tāluk* of Travancore State, Madras, situated in 8° 44′ N. and 77° 10′ E., at the head of the basin of the

Vāmanapuram river. It is about 3,000 feet high and contains a sanitarium which is largely visited. Tea is extensively grown in the neighbourhood, and a company called the Ponmudi Tea Company has been formed.

Porakād (*Porca*).—Town in the Ambalapulai *tāluk* of Travancore State, Madras, situated in 9° 22′ N. and 76° 22′ E. Population (1901), 2,264. Formerly the head-quarters of the Chempakasseri Rājās, it passed to Travancore in 1748. It was once a notable port, but declined with the rise of ALLEPPEY. The Portuguese, and after them the Dutch, had settlements here.

Punalūr.—Head-quarters of the Pattanapuram *tāluk* in Travancore State, Madras, situated in 9° 1′ N. and 76° 59′ E. Population (1901), 2,826. It is a station on the Tinnevelly-Quilon Railway, and the neighbouring forests yield excellent fibre which is made into paper.

Quilon (*Kollam*).—Town and port in the *tāluk* of the same name, Travancore State, Madras, situated in 8° 53′ N. and 76° 36′ E. Population (1901), 15,691. It is one of the oldest towns on the coast and was refounded in A.D. 1019. Its natural situation and consequent commercial importance made it coveted by every foreign power, and subjected it in its early days to many political vicissitudes. Towards the middle of the eighteenth century the State of Quilon, also called Desinganādu, was annexed to Travancore. It was formerly one of the greatest ports on the west coast, but has now fallen to a very considerable extent from its high estate. With the opening of the Tinnevelly-Quilon Railway, however, Quilon, as the terminal station, now finds itself placed in direct communication with the Madras Presidency and should revive once more. A railway siding has been made to the edge of the backwater. The palace of the Mahārājā of Travancore is on the borders of the Quilon lake, which General Cullen called the Loch Lomond of Travancore, and which possesses enchanting scenery. The town also contains a Residency, the office of the Dīwān Peshkār, the District and subordinate courts, high schools, hospitals, and other institutions. Cotton-weaving and spinning and the manufacture of tiles are the chief industries. A cotton-spinning mill has been opened recently. The chief exports are coffee, tea, fish, timber, pepper, and coir; and the chief imports are salt and tobacco. The customs revenue averages about Rs. 10,000. The tonnage of vessels of all classes which call annually at the port is 22,000. The sanitation and conservancy of the town are attended to by a town improvement committee.

The ancient history of Quilon goes back to the earliest times of the old Syrian Church in India. The Nestorian Patriarch Jesujabus of Adiabene noted in the seventh century that Quilon was the southernmost point of Christian influence. It appears in Arabic as early as A.D. 851 under the name *Kaulam-Mall*, when it was already frequented by ships from China. It is the *Coilum* of Marco Polo, and was an important place in the thirteenth and fourteenth centuries. The Portuguese had a factory here, which was captured by the Dutch in 1662. From them, it passed to the English East India Company. The portion now in the possession of the British Government is known as TANGASSERI.

Shencottah.—Head-quarters of the *tāluk* of the same name in Travancore State, Madras, situated in 8° 59′ N. and 77° 15′ E., on the high road from Quilon across the Ghāts to Tinnevelly, from which place it is about 40 miles distant. Population (1901), 9,039, of whom 90 per cent. are Hindus. The Tinnevelly-Quilon Railway enters Travancore through this town. There are several tea and coffee estates in the neighbourhood. About 3 miles to the south are the KUTTĀLAM waterfalls. It formerly belonged to the Rājās of Ilayatatunād and was annexed to Travancore in 1734.

Suchindram.—Village and shrine in the Agastīswaram *tāluk* of Travancore State, Madras, situated in 8° 9′ N. and 77° 27′ E., 8 miles to the north-west of Cape Comorin on the high road to Trivandrum. Population (1901), 2,470. In the centre of the village is the famous shrine of Sthānumalaya Perumāl, a Saivite manifestation of the Hindu Triad, accorded by the Travancore government the first rank among State shrines, and visited by thousands of worshippers during the annual car festival.

Taingapatam (the Rutlam of the early European traders).—Port in the Vilavankod *tāluk* of Travancore State, Madras, situated in 8° 14′ N. and 77° 10′ E., at the mouth of the Kuliturai river. Population (1901), 1,105. It was one of the first possessions of the Dutch in Travancore.

Tiruvallam.—Village and shrine in the Neyyāttinkara *tāluk* of Travancore State, Madras, situated in 8° 21′ N. and 77° 5′ E., 3 miles south of Trivandrum. Population (1901), 4,164. Its temple, dedicated to Vishnu, is of great sanctity and antiquity. Ananta Padmanābha, the tutelary deity of the Travancore royal house, is said to be resting with his head on this shrine, his body at Trivandrum, and his feet at Trippapūr.

Tiruvankod (*Tiruvidāmkodu*).—Village in the Eraniel

tāluk of Travancore State, Madras, situated in 8° 15′ N. and 77° 18′ E. Population (1901), 1,839. It is an ancient capital of Travancore and the place from which the State takes its name.

Trippapūr.—Village and shrine in the Trivandrum *tāluk* of Travancore State, Madras, situated in 8° 33′ N. and 76° 58′ E., about 5 miles north of Trivandrum. Population (1901), 1,937. The shrine, in which are worshipped the feet of Vishnu, is of great sanctity. Ananta Padmanābha, the tutelary deity of the Travancore royal house, is said to be resting with his head at Tiruvallam, his body at Trivandrum, and his feet at Trippapūr. This last name is a corruption of Trippādapuram ('city of the holy feet'), and after it the Mahārājā's family was formerly known among the Malabar kings as *Trippapūr swarūpam*. The Mahārājās first put on the crown at this shrine and thereafter take the name of Kulasekhara Perumāl, a custom which suggests that this was the king's first capital, at least at the time when the coronation ceremony was instituted.

Trivandrum (*Tiru-Anantapuram*, 'the holy city of Ananta').—Capital of Travancore State, Madras, situated in 8° 29′ N. and 76° 57′ E. Area, 9·89 square miles; population (1901), 57,882, consisting of 29,992 males and 27,890 females. Hindus number 47,860, Musalmāns 4,083, Christians 5,912, 'others' 27. Trivandrum is the largest town in Travancore, and the residence of the Mahārājā and the British Resident. It lies 2 miles from the sea, and contains a fort enclosed by a high wall about 1,000 yards long from east to west and about 800 yards from north to south. The fort and its neighbourhood constitute the most crowded part of the town, and here amidst his people lives the ruler of the country. The celebrated shrine of Srī Ananta Padmanābhaswāmi is situated within the fort facing the east, a few yards inside the eastern gate. This has made Trivandrum a great religious centre, which attracts pilgrims from all parts of India throughout the year. In fact the town has really grown up about the shrine and owes its name to it. The temple has a revenue from land amounting to Rs. 75,000, and is under a peculiar system of management. Within the fort are also the palaces of the Mahārājā and other members of the ruling family. On the main road, a mile to the north of the fort, are the Huzūr Kacheri, in which the establishments of the Dīwān (or Minister), the High Court, and other head offices are accommodated in a handsome range of buildings of classic style. To the north

of the public offices are the colleges for boys and girls, the Victoria Jubilee Hall, the Industrial School of Arts, the public library, the Christian churches, and the military cantonment in which is located the Nāyar Brigade. Farther north again is the Napier Museum, erected in the public gardens on plans embracing the prominent features of Malayālam architecture. Close to the Museum is the Observatory, where John Caldecott, the first astronomer (1837-49), and J. A. Broun, F.R.S., conducted their observations. The building, which was planned and erected by Captain Horsley of the Madras Engineers, is situated on a laterite hill, 195 feet above sea-level. Scattered about in all directions save the south are the residences of Europeans and natives, picturesquely situated on isolated hills rising from 50 to nearly 200 feet above the sea, commanding beautiful views over a country which is perennially green and flourishing.

As regards industry and commerce, Trivandrum ranks below some of the other towns in the State. It has a small seaport; but the few vessels that touch at it have to lie at some considerable distance from the shore. Trivandrum is connected by good roads with all the important centres in the country. Towards the south, an excellent road about 53 miles in length leads to the Travancore frontier across the Aramboli Pass, placing the town in communication with Tinnevelly, which is about 50 miles from the boundary. Towards the north, a chain of backwater communication gives easy access to Quilon and Cochin, and thus with the South Indian and Madras Railways.

Udayamperūr (or Diamper).—Town in the Vaikam *tāluk* of Travancore State, Madras, situated in 9° 55′ N. and 76° 25′ E. Population (1901), 5,327. Alexis de Menezes held here the famous synod of Diamper in 1599, a most important event in the history of the Syrian Church in Malabar.

Vaikam.—Head-quarters of the *tāluk* of the same name in Travancore State, Madras, situated in 9° 46′ N. and 76° 24′ E. Population (1901), 9,567. It has an ancient temple dedicated to Siva, which is visited by thousands of worshippers on the Ashtami days in February and November. It also contains a Munsif's court.

Varkkallai.—Village and shrine in the Chirayinkīl *tāluk* of Travancore State, Madras, situated in 8° 42′ N. and 76° 53′ E., on the coast almost midway between Quilon and Trivandrum. Population (1901), 3,160. The high sandstone and laterite headlands (the Warkalli beds of the geologists) that here abut

on the sea have been pierced by two tunnels at a cost of about 18 lakhs, and a canal has been led through them which completes the backwater communication from Trivandrum up to Tirūr in Malabar. The village contains the celebrated temple of Janārdan, an *avatār* of Vishnu, which is visited by pilgrims from all parts of India. The numerous mineral springs hereabouts and the close proximity to the sea have made Varkkallai a favourite Hindu sanitarium. At Edavai, 3 miles to the north, the Danes had a factory in the seventeenth century.

Vellanād.—Village in the Nedumangād *tāluk* of Travancore State, Madras, situated in 8° 34′ N. and 77° 3′ E. Population (1901), 1,326. Plumbago mining is carried on here by a European company.

Verapoli (*Varapuzha*).—Town in the Parūr *tāluk* of Travancore State, Madras, situated in 10° 4′ N. and 76° 17′ E., 9 miles north-east of Cochin. Population (1901), 331. It is the centre of a Carmelite mission. A body of barefooted Carmelites settled in Cochin in the seventeenth century, but were afterwards expelled by the Dutch East India Company. Thereupon the Rājā of Cochin gave them a piece of land at Verapoli where they built a church. Dr. Day says that 'the church is a miniature representation of St. Peter's at Rome. It is perhaps the most exquisite little building in this part of India.' According to the Concordat of 1886, Verapoli was erected into an Archdiocese, and all those portions of Travancore not coming under the Diocese of Cochin were divided between the Archbishop of Verapoli and the Bishop of Quilon. The Catholic population under the Archbishop is about 70,000.

Vilinjam (also called Rājendracholapuram).—Port in the Neyyāttinkara *tāluk* of Travancore State, Madras, situated in 8° 23′ N. and 76° 59′ E., 12 miles south of Trivandrum. Population (1901), 1,879. It was once an important seaport, and the capital of the Chola kings who conquered and settled in Travancore. About 1644, it was granted by the Rājā of Venād to the English East India Company, who erected a factory and carried on trade. With their withdrawal to Anjengo forty years later, its importance declined. On an average only eight vessels touch at the port in a year.

COCHIN STATE

Cochin State (*Kochchi*).—Native State in political relations with the Government of Madras, called after the town of the same name, formerly its capital but now a British possession. It lies between 9° 48′ and 10° 49′ N. and 76° and 76° 55′ E., and has an area of 1,361½ square miles. The State is singularly diversified in its configuration and physical aspects. It consists of two disconnected parts, the larger of which is bounded on the north by the Malabar District of Madras, on the east by Malabar and Travancore State, on the south by Travancore, and on the west by Malabar and the Arabian Sea. The smaller part, called Chittūr, is situated to the north-east, and is entirely surrounded by the Madras Districts of Malabar and Coimbatore. There are also a few small isolated tracts encircled by Travancore.

Boundaries, configuration, and hill and river systems.

The State is divided into three well-defined parts—the hills, the plains, and the seaboard. The hilly or eastern portion, which covers nearly half its total extent, is formed by a section of the WESTERN GHĀTS and is broken by long spurs, extensive ravines, dense forests, and tangled jungles, rising terrace after terrace to an elevation of 5,000 feet above the sea. It is covered with magnificent forests of teak and other valuable trees, and exhibits everywhere a splendid luxuriance of foliage and flowers. Stretching westward, in gentler slopes and gradually widening valleys, but broken here and there by isolated low hills, the plains succeed the forest-clad uplands. Intersected by numerous rivers and streams, dotted everywhere with homesteads or farms, and closely cultivated wherever possible, these plains stretch in a succession of gentle undulations towards a line of backwaters on the coast. Between the backwaters and the sea is a long and narrow stretch of sand, densely covered with luxuriant coco-nut palms, and in some parts, where there are natural or artificial embankments, with wide extents of rice-fields. It is low and generally swampy, and is in several parts liable to be flooded during the monsoon inundations.

The chief rivers are the Alwaye, the Chālakudi, the Kurumāli or Karuvannūr, the Ponnāni, and the Anaimalai. The Alwaye is really a Travancore river, but runs through Cochin

for a few miles; and along this part of its course there are several neat bungalows on its banks, for the use of the members of the ruling family and the chief officers of the State. The Chālakudi rises in the Kodasseri forests and, after a tortuous course of nearly 70 miles, empties itself into the backwater a few miles from Crānganūr. The Kurumāli, which is known as the Karuvannūr after its junction with the Manali, drains the Paravattāni and Pālapilli forests. The Ponnāni receives numerous streams rising from the Cochin forests, and forms for several miles the boundary between Malabar and Cochin. The Anaimalai or Chittūr river, in its course through Coimbatore and Malabar, meanders along 15 miles of Cochin territory in a broad bed of rock and sand.

One of the most striking physical features of the country is the continuous chain of lagoons or backwaters already mentioned, which run parallel to the sea and receive the drainage of the numerous streams descending from the Western Ghāts. They are very irregular in form, varying in breadth from 4 miles to a few dozen yards, and branch out into a number of intricate and shallow channels, sometimes containing low alluvial islands. They communicate with the sea at three points—Cochin, Crānganūr, and Chetwai. Though they are shallow in most places, navigation along them is at all times possible for flat-bottomed passenger and cargo boats. There are also two extensive fresh-water lakes, which are connected with each other, the ENAMĀKKAL and the Manakkodi. A part of the former lies in Malabar District. These lakes open into the backwaters at Enamākkal and Chirakkal, and embankments are constructed to prevent the ingress of salt water from these during the hot season, when the beds of the lakes are sown with rice. Ths area thus annually cultivated exceeds 7,000 acres.

Geological formation. The prevailing geological formation of the eastern part of the State is gneiss, which decomposes into a soil eminently suited, in combination with the heavy rainfall, to support a luxuriant forest growth. Proceeding westwards, the formation merges into a laterite underlain by gneiss, and becomes sandy on the seaboard.

Flora. The flora of the hilly part of the State resembles that of the rest of the Western Ghāts, consisting chiefly of plants that love a warm and moist climate. The principal trees are referred to under forests below. Coffee and cardamoms are grown on the NELLIAMPATHIS. The more prominent growth of the laterite plains includes numerous jack- and mango-trees, areca palms,

and various species of plantain. The coco-nut palm is the chief tree on the seaboard.

Fauna.

The forests of Cochin contain all the larger animals of Southern India. Elephants and bison (*gaur*) are common in the Parambikolam range and to a less extent in the Kodasseri range. Nīlgiri ibex are occasionally seen in the higher ranges of the Nelliampathis. Tigers, bears, leopards, hyenas, *sāmbar* and other kinds of deer are met with in all the forests. The hunting leopard and the wolf are said to be found in some of the jungles. Monkeys and birds of species uncommon away from the west coast are found both in the hills and on the plains. The rivers and backwaters contain otters and crocodiles.

Climate and temperature.

The climate, though damp and enervating, is not unhealthy. It is most moist in the southern *tāluks*, which are situated close to the sea and the backwaters, but less so in the north. Of all parts of the State, the Chittūr *tāluk*, situated within the Pālghāt Gap, has the driest and most bracing climate. The lower hills and parts of Chittūr are feverish, especially during the dry months. Elephantiasis is very common along the coast. The temperature is fairly uniform throughout the year; the highest figure recorded in 1903 was 96° in April, and the lowest 69° in December, the mean being 82°.

Rainfall.

The rainfall is very heavy, and is fairly regular and uniform in quantity. Like the west coast generally, Cochin gets the benefit of both the monsoons in full. In Chittūr, however, owing to its situation within the gap, the supply is less copious, and this accounts for its drier climate. The average annual rainfall, based on the statistics for the twelve years ending 1903, was 136 inches at Trichūr, 108 at Ernākulam, and 66 at Tattamangalam. The State has not for several generations suffered from any serious natural calamities, such as destructive floods or earthquakes, and famine is practically unknown.

History.

Till about the middle of the ninth century A. D. Cochin formed part of the kingdom of Kerala. About that time, Cheramān Perumāl, the last ruler, according to tradition, of the vast country stretching from Gokarn in the north to Cape Comorin in the south, resigned the kingdom into the hands of his relatives and friends, embraced Islām, and went on a pilgrimage to Arabia, where his tomb is reported to have been found. The present Rājās of Cochin claim to hold their territory in direct descent from him. Nothing is known of the subsequent history of the State till the advent of the Portuguese, except that there was constant strife between its rulers and the

neighbouring chiefs, especially the Zamorin of Calicut. In 1502 the Portuguese were allowed to settle in the town of Cochin, and in the following year they built a fort and established commercial relations with the surrounding country. In the wars with the Zamorin, they rendered effective aid to the Rājās of Cochin. In 1599 Menezes, the Roman Catholic Archbishop of Goa, convened a synod at Udayamperūr (the Diamper of history), a village about 12 miles to the south-east of Cochin, at which the tenets of the Syrian Christians, then a large body, were declared heretical, and all their service-books were corrected in order to rid them of Nestorian phrases. In 1663 the Dutch ousted the Portuguese from the town of Cochin. They also obtained possession of several villages on the coast by friendly negotiation with the Rājā, but otherwise left the latter to reign supreme. About a century later, in 1759, when the Dutch power began to decline, the Zamorin of Calicut invaded the State, but was expelled with the aid of the Rājā of Travancore, who obtained a portion of Cochin as a reward for this service. In 1776 Haidar Alī, the Muhammadan usurper of Mysore, invaded the State, and the Rājā agreed to acknowledge his suzerainty and pay tribute. The State remained tributary to him and to his son and successor Tipū till 1791, when the Rājā entered into a treaty with the British by which he became their vassal and agreed to pay an annual tribute of a lakh of rupees. In 1808 Pāliyath Achan, the hereditary chief minister of the State, entered into a conspiracy with the minister of Travancore to assassinate the Resident, and raised an insurrection against the British power without the knowledge of the Rājā. This was easily suppressed; and a fresh treaty was concluded which imposed an enhanced tribute of about 2¾ lakhs. The Rājā also engaged to hold no correspondence with any foreign State and to admit no Europeans into his service without the sanction of the British Government, who might dismantle or garrison any fortresses in his dominions. On the other hand, the British undertook to defend the territories of the Rājā against all enemies. In 1818 the subsidy was reduced to 2 lakhs, which has since remained unaltered. The subsequent history of the State is one of internal reforms and increasing prosperity. In 1862 the Rājā received from Earl Canning, then Governor-General of India, a *sanad* granting him the right of adoption on failure of natural heirs. As in the adjoining State of Travancore, succession is through the female line, according to the prevalent usage on the west coast. His Highness Sir Rāma Varma, the present Rājā, succeeded in

1895. He was created K.C.S.I. in 1897 and G.C.S.I. in 1903. He is entitled to a salute of seventeen guns.

Archaeology.

Prehistoric dolmens or burial cairns are found here and there, especially in the upland tracts, as also are rock-cut caves, the chief of which are those of Tiruvilwāmala and Trikūr. The remains of the Dutch fort at Crānganūr, of the lines erected by Travancore and Cochin to stop the advance of Tipū, and of the fort round the town of Trichūr still exist. There are several old temples, of which the most noteworthy are the Vadakunnāthan shrine in Trichūr and the Tiruvanchikulam temple near Crānganūr. The Jewish synagogues at MATTĀNCHERI, with a clock-tower nearly 300 years old, the copperplate charters of the Jews, and some old Christian churches are of archaeological interest. But few old inscriptions have been found, and they possess little historical value.

The people.

There are 659 towns and villages in the State. The population was 601,114 in 1875, 600,278 in 1881, 722,906 in 1891, and 812,025 in 1901. The decline in 1881 was due merely to indifferent enumeration. The State is divided into the seven *tāluks* of Kanayannūr, Cochin, Crānganūr, Mukundapuram, Trichūr, Talapilli, and Chittūr, the respective head-quarters of which are Ernākulam (the capital of the State), Mattāncheri, Crānganūr, Irinjālakuda, Trichūr, Vadakkāncheri, and Chittūr. Other noteworthy towns are Kunnamkulam and Tattamangalam.

Statistics of population, according to the Census of 1901, are appended:—

Tāluk.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Kanayannūr .	81	1	83	114,628	1,419	+ 12·3	19,935
Cochin . .	63	1	61	120,456	1,919	+ 14·1	18,425
Crānganūr . .	19	...	7	29,140	1,554	+ 4·2	3,633
Mukundapuram .	418	1	139	161,833	387	+ 11·1	16,108
Trichūr . .	225	1	174	145,104	645	+ 12·5	23,384
Talapilli . .	271	1	163	151,315	588	+ 13·0	18,600
Chittūr . .	285	2	25	89,549	314	+ 13·6	8,894
Total	1,362	7	652	812,025	596	+ 12·3	108,979

Nearly 69 per cent. of the people are Hindus or Animists, 7 per cent. Musalmāns, and more than 24 per cent. Christians.

Jews number 1,137. The population increased at the rate of 12·3 per cent. during the decade ending 1901, and the density now is as high as 596 persons per square mile. Malayālam is the language of 88 per cent. of the population and Tamil of nearly 7 per cent. In the Chittūr *tāluk*, which adjoins Coimbatore, as many as 36 per cent. of the people speak Tamil.

Their castes and occupations.

Though the most numerous caste in the State are the toddy-drawing Iluvans or Tīyans, who number 184,504, the most characteristic and important caste is the Nāyars, who number 111,837. They formed the militia of the country in olden times, but are now chiefly agriculturists and Government servants. They follow the Marumakkattāyam law of inheritance, i.e. succession through the sister's children, and among them marriage is not a legal but only a social compact dissolvable at the will of either party. Among other castes who follow the same law are the Kshattriyas or the ruling class (892), the Ambalavāsis or temple-servants (7,483), and low-caste Sūdras, such as barbers, washermen, and weavers (7,521). The Brāhmans of this coast, called Nambūdris (6,407), are a very conservative people who retain, more than any other class of Brāhmans, the old-world piety and purity of the priestly class. Among them the eldest sons alone marry in their own class, the other sons forming alliances with Nāyar and Ambalavāsi women. Other castes include the artisans (29,809), the Vālans (7,564), and Arayans (4,081), who are fishermen and boatmen; the Velans (8,243), who are washermen to low castes; and the agricultural labourer Cherumans (59,840), Paraiyans (8,841), Vettuvans (6,349), and Kanakans (5,917). The hill tribes include 215 Nāyādis, 2,631 Malayans, 439 Ulladans, and 310 Kādans. The chief occupation of the people is agriculture, and as many as 49 per cent. of them (excluding coco-nut growers) live by the land. The next most considerable occupations are those connected with the coco-nut, such as oil-pressing and rope- and mat-making, and with the backwaters, such as catching and curing fish, rowing boats, and so on, by which 16·6 per cent. of the people are supported.

Economic condition.

The economic condition of the people has improved considerably during the last thirty years. Wages of unskilled labourers have risen during this period from 2½ to 4 annas in towns and from 2 to 3 annas in villages, while those of skilled labourers have risen from 4½ to 8 annas in towns and from 3½ to 6 annas in villages. The prices of food-stuffs have also risen, however. The price of husked rice, the chief food-grain,

was Rs. $2\frac{3}{4}$ per maund in the early seventies, while it is now nearly Rs. 4. The poorest class of agricultural labourers, the former predial serfs, still receive their wages in kind at the old rates; but on the whole the people, especially the urban population, are now much better off than were their fathers thirty years ago. They live in better houses, are better clothed, and enjoy more comforts in everyday life.

Births and deaths have been registered since 1896. The statistics are collected by the village officers and submitted at the end of each month to the *tāluk* office, where they are consolidated. As there is no law in the State which renders it obligatory on the part of householders to report the births and deaths occurring in their families, the statistics cannot be considered exhaustive or reliable. The number of births and deaths registered in 1903 was only 8·5 and 9·6 per mille respectively of the population. Vital statistics.

Of the 198,239 Christians in the State (1901), 196,690 are natives. Of these, 77,818 are Roman Catholics under the Archbishop of Verapoli (Varapuzha) and the Bishops of Cochin and Coimbatore, 90,142 Romo-Syrians under the Bishops of Trichūr and Ernākulam, 8,884 Chaldean Syrians under the Patriarch of Babylon, 17,408 Jacobite Syrians under a Metropolitan owing allegiance to the Patriarch of Antioch, 514 St. Thomas or Reformed Syrians under the supreme control of a local Metropolitan, and 1,924 Protestants of various denominations. Christian missions.

The history of the Catholic and Syrian Churches in Cochin would fill many pages and is beyond the scope of the present article. There were Christians on the west coast in Marco Polo's time, in the thirteenth century. The Protestant missions started work in Cochin but recently. The Church Missionary Society began operations first at Trichūr in 1842 and at Kunnamkulam in 1854, the Church of England Zanāna Mission at Trichūr in 1881, and the Leipzig Lutheran Mission at Chittūr in 1882.

At the foot of the Ghāts and in the Chittūr *tāluk*, the chief underlying rock is gneiss of a micaceous or hornblendic variety, loam derived from which is chemically very favourable for cultivation. In the middle zone of the State, the soil is a lateritic clayey loam, the laterite being derived from a quartzose variety of the gneiss. In the tracts near the backwaters and the sea, the earth consists of recent deposits of sand and mud, due mostly to river alluvium. These two latter varieties are of moderate fertility. General agricultural conditions.

Chief agricultural statistics and principal crops.

Cultivation is almost entirely rain-fed, the monsoon rains being both regular and abundant. It derives material help, however, in the Chittūr *tāluk* from the irrigation works on the Anaimalai river, and elsewhere from temporary dams across smaller streams. Rice, of which some 50 varieties are locally distinguished, forms the staple cultivation. Two crops of this are generally raised on all the low ground and one on land on a higher level, while a third crop is raised on some of the best land fed by irrigation from wells or minor streams temporarily dammed. The 'dry' crops are the usual cereals and pulses, plantains and other vegetables, betel leaf and areca-nut, tapioca, sugar-cane, ginger, and pepper. These are neither extensive nor important. Next to rice, coco-nut growing engages the chief attention of the cultivators. The tree is largely raised in the sandy tracts, and its products form the chief exports of the State. Coffee is grown on the Nelliampathis, the area under it being 3,182 acres. The total extent under 'wet' cultivation is 137,000 acres. Statistics of the area of 'dry' lands are not available. No noteworthy improvements have been made in agricultural practice in recent years.

Cattle and sheep.

There is no indigenous breed of cattle or sheep. Milch cows are imported from Coimbatore, and draught bullocks from Mysore. Their degenerate progeny and crosses, supplemented by buffaloes, which seem to be better adapted to the climate, supply the plough cattle. Sheep of the *semmeri* breed are imported from Coimbatore, and a puny variety of goats is bred here and there.

Irrigation.

Permanent irrigation works exist only in the Chittūr *tāluk*, where two anicuts have been constructed by the State and four by the ryots. In the other *tāluks*, small areas are irrigated by temporary dams put up annually across the minor streams. There are 169 such dams or *chiras*, of which 48 are made by the ryots. The total area under irrigation is 17,000 acres, or 12 per cent. of the 'wet' area. Of this, the State canals supply 5,000 acres and the State dams 6,200, while the rest is watered by private works, chiefly canals. A sum of Rs. 17,000 is annually collected as irrigation cess.

Forests.

The forests of Cochin form one of its most valuable assets. As they have not yet been fully surveyed and demarcated, their exact extent is unknown. The approximate area is 605 square miles, or nearly half of the State. Till recently, the importance of forest administration on scientific principles was not sufficiently recognized, and the reckless destruction of the forests by timber-cutters, cultivators, and firewood-gatherers went on

to a great extent unchecked. But a better system of administration was inaugurated about 1898, with the result that, while many parts of the forests are now enjoying a long-needed rest, the revenue from this source is increasing enormously.

The department is under the control of a Conservator. The whole forest area is divided into two charges, called the northern and southern divisions, each under an Assistant Conservator. The former is composed of the ranges of Machād and Chittūr, and the latter of the Kodasseri and Parambikolam ranges. The major portion of the forests in the northern division were overworked in former years; and these parts are now practically left alone, except for the removal of badly grown and stunted teak-trees, the extraction of fuel under the system of coppice with standard fellings, and selection fellings in the parts which have not been previously overworked. Teak, ebony (*Diospyros Ebenum*), and blackwood (*Dalbergia latifolia*) grow in all these ranges, but they are neither abundant nor of superior quality. Among exploitable trees that grow fairly in these forests are *irūl* (*Xylia dolabriformis*), *aini* (*Artocarpus hirsuta*), *vedankorana* (*Bignonia xylocarpa*), *vengai* (*Pterocarpus Marsupium*), and *pongo* (*Calophyllum bracteatum*). It is, however, in the southern division that teak and other valuable trees flourish generously and abundantly. The Parambikolam range, including the Nelliampathis, and the Kodasseri range, containing the Adarapalli forests, are densely covered with magnificent timber of marketable value. Several teak-trees have recently been felled in the former, of which the largest (but by no means the largest in the range) contained more than 400 cubic feet of wood. They are practically virgin forests, covering an area of about 300 square miles, and have never before been worked for want of a suitable outlet. From the Adarapalli forests timber can be transported through Travancore with comparative facility, but no exit is possible through Cochin territory except at prohibitive cost. From the Parambikolam range an outlet has, after careful investigation, been made in the shape of a tramway and timber slide, at a cost of 10 lakhs. The tramway is in three sections. The first section covers a distance of 20½ miles in the higher range, and is followed by a self-acting inclined tramway 5,000 feet long. Then comes the second section, 4½ miles in length, at the end of which timber is sent down by means of a slide 7,000 feet long, whence it is taken over the third section, 19 miles in length, to the Chālakudi railway-station.

Among the minor forest products are cardamoms, which

grow in several parts of Kodasseri and Parambikolam, lemon-grass, honey, beeswax, &c., which are found in all the forests. Elephants are caught in pits: 28 were so caught in the three years ending 1904. The only attempt at artificial reproduction as yet made is the teak plantation at Pālapilli in the Kodasseri range, which is about 800 acres in extent. The people are allowed to remove from the forests, free of all charge, headloads of fuel, bamboos, and thorns for fencing, leaves for manure, timber for agricultural implements, fodder, and thatching-grass. The free grazing of cattle, sheep, and goats is also allowed. The receipts from the forests in 1903-4 amounted to Rs. 5,84,000, compared with only Rs. 58,100 in 1880-1.

Minerals. The only minerals worked in the State are granite, laterite, and limestone. The first two are quarried, chiefly for building purposes, in all the *tāluks* but Cochin, Crānganūr, and Chittūr. Limestone is extracted in Chittūr in small quantities. There are traces of iron and mica in some parts, but they have not yet been exploited.

Arts and manufactures. Cotton-weaving is carried on to some extent in the Chittūr and Talapilli *tāluks*. Laced and other cloths of fine texture are made out of English cotton twist, and are displacing the Tinnevelly cloths so much affected by the people of this coast. Grass mats of excellent colouring and texture, made at Vadakkāncheri, are in much demand. Coir (coco-nut fibre) matting and rugs of good quality are made at Ernākulam and Mattāncheri.

The most important factory industry is the extraction of coco-nut oil. Seven steam mills, all in the Cochin *tāluk* and owned by native capitalists, in which about 400 hands are employed daily, are engaged in this manufacture. The out-turn in 1903 was about 16,000 tons of oil, worth over 60 lakhs. Besides some concerns for the manufacture of ordinary pottery and pantiles, there are two tile factories at Trichūr and two in the Mukundapuram *tāluk*, where tiles and bricks of the Mangalore pattern are made. A steam saw-mill is at work at VYPĪN and another near Shoranūr. There is also a hydraulic press at Mattāncheri for pressing coir yarn.

Commerce. The chief exports are coco-nut oil, yarn, rope, fibre and matting made from coir, copra, areca-nut, ginger, pepper, fish and prawns; and the chief imports are rice, cotton piece-goods, raw cotton and twist, metals, hardware and cutlery, and sugar. No official statistics of trade are available; but figures of the value of the chief exports and imports through British Cochin,

which are mainly the exports and imports of the Cochin State, show that the annual exports of coco-nut oil are worth 93 lakhs; of yarn, &c., made of coir, 50 lakhs; and of pepper, 9 lakhs; while the imports include grain valued at 38 lakhs, and raw and manufactured cotton valued at 11 lakhs.

Railways and road A branch line of railway on the metre gauge was opened in June, 1902, from Shoranūr, on the south-west line of the Madras Railway, to Ernākulam, the capital of the State. The line, which is 65 miles long and cost nearly 70 lakhs of rupees, is owned by the State, but is worked by the Madras Railway Company.

The total length of metalled roads under maintenance is 391 miles, and of unmetalled roads 56 miles. All the towns and important villages in the State, except those on the seaboard, are connected by good roads, which also meet all the metalled roads in Malabar and Travancore that touch the Cochin frontier. Before the introduction of the railway, the chief means of communication, especially for goods, was the backwaters, which still attract a considerable portion of the local traffic. The length of this line of communication from Trichūr to the southern end of the State is 60 miles, and the canals which branch out from it have an aggregate length of about 60 miles.

Postal system. The State has a postal system or *anchal* of its own. There are in all 39 post offices, or one to every 35 square miles, besides 56 letter-boxes. Postage stamps of the values of 3 pies and of ½, 1, and 2 *puttans* (1 *puttan* = 10 pies), stamped envelopes of similar denominations, and post-cards and reply-cards of the values of 2 and 4 pies are manufactured by the State under the supervision of the Superintendent of Stamps and Stationery.

Famine. The State has hitherto had the good fortune to enjoy immunity from famine. During the great famines of 1876–8 and 1897–8, there was considerable scarcity, but it was not so acute as to necessitate relief works, much less gratuitous relief.

Sub-divisions and staff. Cochin is divided for administrative purposes into two divisions, the northern and southern, the head-quarters of which are Trichūr and Ernākulam. The administrative head of the division is the Peshkār, who is also the District magistrate, and whose position corresponds to that of the Collector of a British District. The northern division comprises the *tāluks* of Trichūr, Talapilli, and Chittūr, and the southern division those of Kanayannūr, Cochin, Crānganūr, and Mukundapuram, each of which is in charge of a *tahsīldār*, who is also a second-class magistrate. There are three stationary

sub-magistrates—at Nemmāra, Kunnamkulam, and Adūr. The *tāluks* are further subdivided into forty-four *provertis* or *amsams*. The Dīwān is the chief minister and responsible head of the administration.

Finance. The principal sources of revenue and the amounts received from each in 1903-4 were: land revenue, 7 lakhs; salt, 5 lakhs; forests, 6 lakhs; judicial items, 3 lakhs; and excise, 2 lakhs. The chief items of expenditure were: forests, 5 lakhs; palace, $3\frac{1}{2}$ lakhs; public works, $2\frac{1}{2}$ lakhs; law and justice, $2\frac{1}{2}$ lakhs; and the subsidy to the British Government, 2 lakhs. Of the expenditure under 'palace,' a sum of Rs. 2,40,000 represents the fixed allowances to the Rājā and the members of his family. The balance is a fluctuating item, being the miscellaneous expenditure in connexion with the palaces. The total receipts amounted to 29 lakhs and the total expenditure to 28·9 lakhs, as compared with 14·5 lakhs and 13·3 lakhs respectively in 1880-1. The receipts and expenditure of the Crānganūr *tāluk* are not included in these figures. That tract is a separate principality under a chief who pays a tribute of Rs. 6,857 to Cochin. It is financially autonomous, but is in all other respects treated as an integral part of the State.

Coinage. The only coins ever minted in the State were the single and double *puttans*, which were of the value of 10 and 20 pies respectively. The earliest coinage of these of which we have any record was that of 1783-4, when two lakhs of rupees worth of them were made. *Puttans* to the value of Rs. 36,000, Rs. 62,000, Rs. 32,000, and Rs. 30,000 were coined in 1790, 1821, 1855, and 1897 respectively. Subsequently the coin began to depreciate in value, so much so that in 1900 the State felt constrained to withdraw all the *puttans* from circulation and abolish the coin as legal tender. The State has now no currency of its own, but all British Indian coins are current.

Customs, excise, opium, and tobacco. By the Interportal Convention of 1865, the State agreed to abolish the tobacco monopoly and the system of inland transit duties, to equalize the rates of customs duties at its seaports with those obtaining at the ports of British India, and to sell salt within its limits at the price ruling in the District of Malabar. In return for these concessions, the British Government guaranteed to the State a minimum customs and tobacco revenue of Rs. 1,10,500. The excise revenue is derived from the sale of the monopoly to manufacture and sell country spirits, and the revenue from opium and *gāñja* from the sale of the monopoly to vend these drugs, which are obtained by the contractor from the Madras storehouses. Tobacco can be

imported and sold by licence-holders, and the licence fees paid by them constitute the tobacco revenue.

Civil justice and crime.

Civil justice is administered by six Munsifs' courts, two District courts, and a Chief Court. The Munsifs try all suits of which the value does not exceed Rs. 1,000 and to which the State is not a party. The District courts hear appeals from the decisions of the Munsifs and try all suits to which the State is a party or of which the value exceeds Rs. 1,000. Appeals from their decisions are heard by the Chief Court, whose decision in civil cases is final. This tribunal consists of three Judges, of whom one is a European barrister. Criminal jurisdiction is exercised by the Chief Court, two Sessions courts, two District magistrates with first-class powers, and ten second or third-class magistrates. The Chief Court is the highest appellate court, but sentences of death or of imprisonment for life are subject to confirmation by the Rājā. The Sessions courts have the same powers as the corresponding tribunals in British territory. The District magistrates have power to pass sentences of imprisonment for one year and fines up to Rs. 500; the second-class magistrates, sentences of six months' imprisonment and fines up to Rs. 200; and the third-class magistrates, sentences of one month's imprisonment and fines up to Rs. 50.

European British subjects are within the jurisdiction of the civil courts of the State and, in cases of contempt, of the criminal courts as well. For the trial of other offences by them, the State appoints one or more European British subjects as special magistrates for the trial of Europeans, and the Government of India gazettes them as Justices of the Peace. They have power to sentence European British subjects to three months' imprisonment and a fine of Rs. 1,000. An appeal lies to the European Judge of the Chief Court. The Resident is a Justice of the Peace, with the powers of a District magistrate and Sessions Judge over such subjects. An appeal from his decisions lies to the Madras High Court.

Legislative machinery and legislation.

When the State finds it necessary to legislate on any subject, the law committee, a standing committee consisting of a president and seven members appointed for a period of three years, is requested to prepare and submit a draft bill. This, after undergoing such revision as is found necessary by the Dīwān, is submitted to the Government of Madras for approval through the British Resident. In some cases, however, bills are drafted without the intervention of the law committee. When the bill is approved by the Madras Government, it is

submitted to the Rājā, on receiving whose assent it becomes law. All enactments are called Regulations. At present forty-five such Regulations are in force. They are framed on the lines of corresponding enactments in British India. In cases of emergency, the Rājā issues proclamations in his own name, which also have the force of law.

Land revenue administration. All land in Cochin was originally private property in fee-simple (*janmam*). No regular tax was levied, but non-Brāhman land-holders had to render military service when required. The ruler of the State derived his income from crown lands, customs, monopolies, &c. These crown lands, which are now the *janmam* of the State, increased in extent from time to time by escheat, confiscation, and purchase, so that they now comprise more than a third of the occupied area. A small assessment was imposed for the first time in 1762, probably to meet the increasing expenditure caused by wars with the neighbouring chiefs. Subsequently, there were several piecemeal surveys of particular areas or particular kinds of land, but the first general survey and settlement of 'dry' land were carried out in 1815 and of 'wet' land in 1821. The 'dry' land was again surveyed and settled in 1843 and 1862. A systematic survey of all land in the State is now in progress, and a scheme for its resettlement is under consideration.

The tenures and sub-tenures under which State and private *janmam* lands are held are multifarious, ranging from permanent leases on a nominal rent to tenancies-at-will. The assessments are made up of a variety of imposts and vary, on State land, from Rs. 14 to R. 1 for 'wet' land and from R. 0–12–0 to R. 0–6–10 for 'dry' land per acre. Separate taxes are collected on each jack, coco-nut, and areca-nut tree. About 11,000 acres of land are *inām*, or held on favourable tenure.

Local boards. In Cochin no municipal councils or local boards have been established; but in all the towns, and in Tripunittura, Nemmāra, and the Nelliampathis, sanitary boards, financed by the State, look after local sanitation.

Public works. The Public Works department is under a Chief Engineer, assisted by two divisional and six subdivisional officers. The expenditure during the ten years ending 1904 averaged 4½ lakhs. Among the more important public buildings constructed or improved are some of the palaces at Tripunittura, the Darbār Hall, the Dīwān's office, the Chief Court and the College at Ernākulam, the public offices at Trichūr, and the Residencies at Ernākulam and Trichūr. The only important irrigation works in the State are those at Mulattura and Narni on the Anaimalai river.

The State maintains a small force, consisting of 309 infantry, 16 cavalry, and 4 guns. The British detachment stationed in Cochin after the treaty of 1809 was withdrawn in 1900. Troops.

The police force is under the control of a Superintendent, and consists of 504 constables working under 7 inspectors. There are 29 police stations in the State. The Ernākulam jail has accommodation for 200 prisoners. Nine subsidiary jails for short-term prisoners are maintained at the head-quarters of the sub-magistrates. Police and jails.

Cochin stands at the head of all the Districts and States in Southern India, except Madras City, in the literacy of its population, of whom 13·4 per cent. (22·4 males and 4·5 females) are able to read and write. At the end of 1903–4 it contained 1,510 educational institutions with 48,079 pupils. Of these, 241 were public institutions, of which 58 were managed directly by the State, 127 were under private management but aided, and 2, though unaided, conformed to the rules of the department. They included 147 primary, 33 secondary, and 6 special schools, and one second-grade college at Ernākulam. Of the special schools, one is a training institution, three are Sanskrit schools, and the remaining two are elementary industrial schools. In some of the private schools, which number 1,800 and contain 27,529 pupils, only the Korān or the rudiments of Sanskrit or native singing are taught. Education

Of the boys and girls of school-going age, 57 and 22 per cent. respectively were receiving instruction, but only 8·1 per cent. of the boys and 0·94 per cent. of the girls under instruction have passed the primary stage. In point of primary education, Christians stand first and Musalmāns last, but in the matter of higher education Hindus take the lead. The total expenditure on education in 1903–4 was Rs. 99,000, of which Rs. 36,000 was derived from fees.

There are 10 hospitals and 3 dispensaries in the State, with accommodation for 244 in-patients. The total number of cases treated in 1903–4 was 185,000, of whom 3,700 were in-patients, and the number of operations performed was 7,700. The lady doctors attached to the hospitals at Mattāncheri and Trichūr treated 19,000 women and 13,000 children. The total expenditure on the department was Rs. 65,000. Hospitals and dispensaries.

In 1903–4 the number of persons successfully vaccinated was 19,000, or 24 per mille of the population. Vaccination is not compulsory anywhere in the State. Vaccination.

[For further particulars of the State, see the Census Reports of 1891 and 1901.]

Chittūr.—Head-quarters of the *tāluk* of the same name in Cochin State, Madras, situated in 10° 42′ N. and 76° 45′ E., on the Anaimalai river. Population (1901), 8,095, of whom 96 per cent. are Hindus, chiefly Brāhmans and Nāyars. Several of the latter are substantial landholders. Cotton-weaving is carried on to some extent in the town. It contains a small palace, the offices of the *tahsīldār* and the District Munsif, and a high school.

Ernākulam.—Capital of Cochin State, Madras, situated in 9° 59′ N. and 76° 17′ E., on a backwater, two miles east of, and opposite to, British Cochin and the bar. Area, 5 square miles; population (1901), 21,901, consisting of 11,197 Hindus, 9,357 Christians, 935 Musalmāns, and 412 Jews. Ernākulam is the terminus of the Cochin State Railway and is rapidly growing in population and importance. The chief public buildings and institutions are the Darbār Hall, where the British Resident pays his state visits to the Rājā, the office of the Dīwān and the Chief Court, the Rājā's College, containing more than 700 students, the General Hospital with 68 beds, the Central jail with accommodation for 200 prisoners, the St. Albert's high school managed by the Verapoli Mission, the St. Teresa's Convent with an orphanage and girls' school attached to it, the palace of the Romo-Syrian Bishop, and the Carmelite monastery. There are also four Catholic churches in the town. Its trade, which is not very considerable, is chiefly in the hands of the Konkanis and the Jews. The Residency is picturesquely situated on an island close to Ernākulam. It was originally a Dutch factory built in 1774, but several additions and improvements have since been made to it.

Irinjālakuda.—Town in the Mukundapuram *tāluk* of Cochin State, Madras, situated in 10° 22′ N. and 76° 14′ E. Population (1901), 8,420, of whom 5,240 are Hindus and 2,656 Christians. It is the head-quarters of the *tāluk*, and contains the *tahsīldār's* office, the Munsif's court, a high school, and several palaces. The most important institution in the town is the large and well-endowed temple of Kūdalmānikkam, presided over by a Sūdra Sanyāsi, who by consecration is elevated to the status of a Brāhman. He is designated Thachudaya Kaimal and is nominated by the ruler of Travancore.

Kunnamkulam.—Town in the Talapilli *tāluk* of Cochin State, Madras, situated in 10° 39′ N. and 76° 4′ E. Population (1901), 7,194, of whom 63 per cent. are Christians, chiefly Jacobite Syrians. There are several Syrian churches in Kunnamkulam and its neighbourhood, and it is also one of the centres of the Church Missionary Society's work in Cochin.

It contains a sub-magistrate's court, a lower secondary school, and a Jacobite Syrian high school, and has some trade in areca-nut and other local produce.

Mattāncheri.—The commercial capital of Cochin State, Madras, and the head-quarters of the Cochin *tāluk*, situated in 9° 57′ N. and 76° 15′ E., on the backwater, opposite to Ernākulam and adjoining the British town of Cochin. Area, 2½ square miles; population (1901), 20,061, of whom 9,466 are Hindus, 5,607 Christians, 4,489 Musalmāns, and 474 Jews. It is the centre of a considerable export and import trade, which is almost entirely in the hands of Baniās and Cutchi Memons from the Bombay Presidency. There are several steam oil-mills in the neighbourhood, and a hydraulic press in the centre of the town. Mattāncheri is said to have been formerly the capital of the State, and contains a spacious old palace of quaint Dutch design, where the Rājās of Cochin are still installed. Historically the most interesting part of the place is what is known as the Jews' Town, which is exclusively inhabited by the White and Black Jews. They settled here after their expulsion from Crānganūr by the Portuguese in the sixteenth century, and formed a prosperous colony. But of late years they have been declining both in numbers and in affluence. They have three old synagogues in the town. Among modern institutions of note are the large and richly endowed Konkani temple of Tirumala Devaswam, and the women and children's hospital, which contains accommodation for 20 in-patients.

Nelliampathis.—Range of hills in Cochin State, Madras, forming a section of the Western Ghāts. They lie 20 miles to the south of Pālghāt, which is the nearest railway station, between 10° 26′ and 10° 42′ N. and 76° 31′ and 76° 52′ E.

The range varies in height from 1,500 to 5,000 feet above the sea, and consists of a succession of ridges cut off from one another by valleys containing dark evergreen forests. In the centre of the range is an extensive plateau, the average elevation of which is over 3,000 feet. The highest peak in the range is Nellikkotta or Padagiri, 5,200 feet above sea-level. Karimala-gopuram, Vellāchimudi, Valiyavana Ridge, Myānmudi, and Vālavachān are other peaks, each over 4,000 feet in height. The climate of the range is cool and pleasant during the greater part of the year, but is feverish in March, April, and May. The monsoon rains are heavy, the average annual fall being 155 inches. In 1903 the thermometer ranged from 60° in December to 84° in April, the mean temperature being 72°.

Throughout the Nelliampathis and the adjoining country of Parambikolam, the hills are densely covered with teak and other valuable trees which grow in this generous soil to very large dimensions. Until recently, these forests had never been worked for want of a suitable outlet to the plains. A tramway and timber slide have now, however, been constructed, which will render accessible the valuable produce of this range. On the plateau above referred to, land was opened out for coffee-growing in 1864. There are now eighteen estates, of which seventeen are owned by Europeans. The total area assigned for coffee cultivation is 8,502 acres, of which 3,177 acres are under mature plants. The yield in 1903–4 was 2,885 cwt., or an average of 91 lb. per acre of mature plants. From 800 to 1,000 labourers are employed on the plantations, and the annual quit-rent amounts to Rs. 13,000. The State has constructed a *ghāt* road to the estates, the length of which from the foot of the *ghāt* to the plateau is 23 miles and the steepest gradient 1 in 6. About 15 miles of road on the plateau connect the estates with one another. The State maintains a dispensary and a police station. The population of the range is 3,018, of whom 310 are Kādans, the only jungle folk found in these hills.

Tattamangalam.—Town in the Chittūr *tāluk* of Cochin State, Madras, situated in 10° 41′ N. and 76° 42′ E. Area, 5½ square miles; population (1901), 6,222, of whom 79 per cent. are Hindus and 20 per cent. Musalmāns. It is a place of some trade, which is chiefly in the hands of the Musalmāns.

Trichūr (*Trissivaperūr*).—Town in the *tāluk* of the same name, Cochin State, Madras, situated in 10° 32′ N. and 76° 13′ E. Area, 3½ square miles; population (1901), 15,585, of whom as many as 6,663 are Christians. Trichūr is considered the oldest town on the west coast, and its foundation is attributed by local tradition to Parasu Rāma. It was the scene of many historical events, of which the more recent were its capture and occupation by the Zamorin in 1760, by Haidar's army under Sardār Khān in 1776, and by Tipū in 1789. The town and the palace were fortified in 1774 with mud walls and trenches, but these defences are now in ruins. Situated at the head of the backwater communication, and possessing a railway station, Trichūr is a centre of considerable trade, which is chiefly in the hands of native Christians and Brāhmans from Tinnevelly. The former are an enterprising and prosperous community, the members of which own, among other concerns, four tile factories, a tannery, and a calico-weaving establish-

ment. The chief buildings and institutions are the Palace, the Residency, the offices of the Chief Engineer, the Conservator of forests, and the Superintendent of police, the courts of the District Judge and the District magistrate, the civil hospital, three high schools for boys, and three lower secondary schools for girls. There are three important churches, one for the Chaldean Syrians, another for the Romo-Syrians, and the third for the Protestants. The most interesting and noteworthy institutions of the town are the temple of Vadakunnāthan, which is considered the oldest on the west coast, and the three Brāhman *maths*, or religious houses, which are said to have been founded by three of Sankarāchārya's pupils. Situated on an eminence, the temple contains several shrines and is surrounded by a high and thick masonry wall, with four massive *gopurams* or towers. Its income exceeds Rs. 30,000 per annum. The *maths* are also well endowed; in one of them Nambūdri Brāhmans are fed gratuitously and taught the Vedas.

Tripunittura.—Town in the Kanayannūr *tāluk* of Cochin State, Madras, situated in 9° 57′ N. and 76° 20′ E., 8 miles east of British Cochin and 5 miles from Ernākulam. Population (1901), about 3,000. Its importance consists in its being the residence of the members of the ruling family, for whom the State has built several palaces. The present Rājā usually resides in a handsome palace, picturesquely situated on a hill 1½ miles to the east of the town.

Vypīn (*veppu*, 'a deposit').—Island in the Cochin *tāluk* of Cochin State, Madras, situated between 9° 58′ and 10° 11′ N. and 76° 10′ and 76° 14′ E. It lies between the backwater on the east and the Arabian Sea on the west, and the Crānganūr and Cochin bars on the north and the south. It is 14¾ miles long with a mean breadth of 1⅜ miles. The southern extremity, 23½ acres in extent, is British territory, and its northern end, 1¾ square miles in area, belongs to the State of Travancore. The total area of the island, including these portions, is a little over 22½ square miles, of which about 7 square miles are under 'wet' cultivation and 11 square miles consist of coco-nut plantations. The population of the Cochin portion of the island is (1901) 40,365: namely, Hindus, 25,252; Christians, 13,554; and Musalmāns, 1,526.

The island has been formed by the deposits of silt brought down by the rivers discharging into the backwater and the sea. The date of its appearance, or, more probably, of the peopling of the place, is preserved in old Cochin deeds, which are often

dated in the *pudu veppu* (literally, 'new deposit') era, commencing A.D. 1341. As the soil is richly overlaid with alluvium, the coco-nut palm grows most luxuriantly, and during the years in which monsoon inundations are normal the 'wet' lands yield a rich harvest.

The island has been the scene of stirring historical events. Many a battle was fought here between the forces of the Zamorin of Calicut and the Rājā of Cochin. In 1503 the Zamorin was signally defeated by Cochin with the assistance of the Portuguese. During the Dutch period, the island was practically in the hands of that nation for several years, and throughout the Travancore wars with Mysore it was a disputed point. In the Travancore portion the remains of the Dutch fort of Ayakotta still exist. There are several churches on it, built in the time of the Portuguese and the Dutch, while the Syrian Church at Narakkal is said to have been founded long before that period. In Pallipuram, a village in the island, is a Lazaretto managed by the Collector of Malabar. The place was a Jesuit college during the Portuguese period. The Dutch (1663–1795) turned it into a Lazarhaus, and under one of the articles of the surrender of Cochin (1795) the Madras Government is bound to maintain it.

PUDUKKOTTAI STATE

Pudukkottai State.—The third most important of the five Native States in political relations with the Government of Madras. It lies on the eastern side of the Presidency between 10° 7′ and 10° 44′ N. and 78° 25′ and 79° 12′ E., and is bounded on the north and west by Trichinopoly District, the Collector of which is *ex officio* Political Agent for the State, on the south by Madura, and on the east by Tanjore. It comprises an area of 1,100 square miles and measures 50 miles from east to west and 40 miles from north to south, and is called after its chief town, the name meaning 'new fort.' The State was formerly known as the Tondimān's country, from the family name of the ruling chief. Boundaries and physical aspects.

It resembles in its general physical aspects the upland parts of the east coast of the Presidency, and consists for the most part of an undulating plain of barren or sparsely-cultivated land interspersed with small but picturesque rocky hills, some of which are crowned by ancient forts and temples. These hills are most numerous in the south-west portion, where the country is extremely wild and rugged, and here also are the thickest forests. In these are found antelope, spotted deer, wild hog, and some wild cattle, which appear to have originally been village cattle of the ordinary type but are now larger and stronger than the usual plough bullocks. Four small rivers drain the country from west to east.

The climate resembles that of the surrounding Districts and is fairly healthy. Temperatures have not been officially recorded, but Pudukkottai is probably cooler than Trichinopoly in the hot season, and it is more open and nearer the sea. Malaria is rare. Guinea-worm used to be very common, but is now less prevalent. The annual rainfall averages 35 inches. Climate and rainfall.

During the last quarter of a century there have been three cyclones, which occurred in 1884, 1890, and 1893, all during the north-east monsoon. In the first two the rainfall amounted to about 7½ inches, and in the last it was from 12 to 27 inches in different parts of the State, but no serious damage occurred.

In early times the northern part of the present Pudukkottai State belonged to the CHOLA kings, whose capital was at Uraiyūr near Trichinopoly, and the southern part to the History.

PĀNDYA kings of MADURA. About the middle of the sixteenth century Madura passed to the Naik dynasty, and its kings acquired the whole of the territory which makes up the present State, ruling it through a *poligār* or feudatory chief. In the seventeenth century the country came into the possession of the Setupati of RĀMNĀD, who had been a vassal of the Naiks but had thrown off his allegiance. It was temporarily recovered about 1664 by Chokkanātha, the Naik ruler of Trichinopoly, but soon afterwards came again into the possession of Rāmnād; and about 1680 the Setupati, Raghunātha Kilavan, appointed Raghunātha Tondimān as chief of the district of Pudukkottai. This latter is said to have been the brother of a girl of the Kallan caste whom the Rāmnād chief had married. From him the present Rājās trace their descent.

The relations of the English with the State began during the Carnatic wars of the eighteenth century. During the siege of Trichinopoly by the French in 1752 and 1753 the Tondimān of the time did good service to the Company's cause by sending them provisions, although his own country was on at least one occasion ravaged as a consequence of his fidelity to the English. In 1756 he sent some of his troops to assist Muhammad Yūsuf, the Company's sepoy commandant, in settling the Madura and Tinnevelly countries. Subsequently, he was of much service in the wars with Haidar Alī, and in the operations against the rebellious *poligārs* of SIVAGANGA and PĀNJALAMKURICHI in Madura and Tinnevelly Districts respectively, capturing the latter and handing him over to the English. In 1803 he solicited, as a reward for his services, the favourable consideration of his claim to the fort and district of Kīlanelli, near ARANTĀNGI in the south of Tanjore. He based his claim on a grant made by Pratāp Singh, Rājā of Tanjore, and on engagements subsequently entered into by Colonel Braithwaite, Sir Eyre Coote, and Lord Macartney, on the faith of which he had retaken the fort from Haidar Alī. The Madras Government, after a very complimentary review of his services, complied with his request; and the grant was confirmed in 1806 by the Court of Directors, subject to the condition that the district should not be alienated, and that it should revert to the British Government upon satisfactory proof that the inhabitants were subjected to any oppressive system of management. The grant was further made subject to the yearly tribute of an elephant, but this was never insisted upon, and in 1836 was formally remitted. Beyond this grant, there is no treaty or arrangement with the Rājā. A *sanad*

permitting adoption in accordance with Hindu law was conferred on him in 1862. At first the political charge of the State was entrusted to the Resident of Tanjore. When this office was abolished in 1841, the duty was transferred to the Collector of Madura. From 1865 to 1874 the Political Agent was the Collector of Tanjore, and from 1874 up to the present time the Collector of Trichinopoly has carried on the duties of the post.

The present Rājā, His Highness Rājā Srī Mārtānda Bhairava Tondimān Bahādur, who was born on November 27, 1875, succeeded his grandfather in 1886 as a minor. He is the grandson of Rājā Rāmachandra Tondimān Bahādur (fifth in descent from Raghunātha) by his eldest daughter, and was adopted by the late Rājā in 1877. During his minority the late Sir A. Seshayya Sāstri, K.C.S.I., was Dīwān Regent. The Rājā, who had been for some years under the private tuition of an English gentleman, was installed on November 27, 1894. He has a privy purse of Rs. 1,24,000 a year, and is entitled to a salute of eleven guns.

Archaeology. No systematic examination of the archaeological remains in the State has been made. Near Nārtāmalai, in a cluster of low rocky hills 9 miles north-west of Pudukkottai town and to the west of the road from Trichinopoly, are some ancient rock-cuttings consisting of caves with pillar supports to the roof and carvings, which are probably of Jain origin. The most interesting antiquities so far discovered consist of coins. Roman *aurei* have been found, and also some curious native copper coins which are believed to be about a hundred years old. The latter are lumps of copper without edgings, but the designs on some of them are well executed. The coins being very small the legends are imperfect, but they are believed to have been struck by Rājā Vijaya Raghunātha (1807–1825). Some curious old chain armour has been found near Tirumayam. The inscriptions on some of the temples are believed to be of interest, but have not been deciphered.

The people. The State contains one town, its capital Pudukkottai, the inhabitants of which numbered 20,347 in 1901, and 377 villages. The largest of the villages are Tirumayam and Karambakudi, the population of each of which is over 3,500. The population of the State was 316,695 in 1871, 302,127 in 1881 (the decline being due to the great famine of 1876–8), 373,096 in 1891, and 380,440 in 1901. The density in 1901 was 346 persons per square mile, which is considerably less than in the neighbouring Districts of Tanjore and Trichinopoly, but slightly above the density of Madura. In the same yea.

Hindus numbered 453,723, or 93 per cent. of the total; Muhammadans 12,268, or 3·2 per cent.; and Christians 14,449, or 3·8 per cent. The most numerous caste among the Hindus is the Valaiyans (52,890), formerly *shikāris*, but now largely agriculturists; next come the Kallans (47,462), the Paraiyans (32,550), and the Pallans (27,381), who are chiefly cultivators and farm labourers; and then the Idaiyans (26,479), who are shepherds. As elsewhere in Southern India, the enormous majority of the people subsist by the land.

Christian missions.

The Christian missions working in the State are the Roman Catholic (Jesuit and Goanese), and the Protestant (Leipzig Lutheran, and Wesleyan). Avūr, a village 12 miles to the south of Trichinopoly, is the centre of the Catholic missions. Of the Christians in the State in 1901, 14,406 were natives, and of these 14,051 were Roman Catholics, 233 Lutherans, and 17 Methodists.

Vital statistics.

Vital statistics are registered by the village officers, as in British territory. The recorded birth and death rates in 1903–4 were 9·28 and 8·75 respectively per mille of the population. These figures show that registration is by no means complete, and steps are being taken to improve matters. Regulation I of 1903 has made registration compulsory in Pudukkottai town, and Regulation II of the same year gives the Darbār power to make it compulsory in rural tracts also.

Agriculture.

The general agricultural conditions of the State, the soils and seasons and the methods of cultivation, resemble those in the adjoining areas in Trichinopoly and Madura. Out of the total area of 1,100 square miles or 704,000 acres, 271,879 acres are held on the usual *ryotwāri* or *inām* (favourable rate) tenures; 157,417 acres are occupied by *jāgīrs* (estates), or relate to *ināms* the tenure of which has been inquired into but in respect of which title-deeds have not yet been issued; 50,070 acres represent unoccupied lands fit for cultivation; and the rest is waste, such as hills, forest, village-sites, &c., which is not fit for cultivation. Among the lands held on *inām* and other favourable tenures is the Manovarti *jāgīr*, which is held by the Rājā himself. This class of land also includes many villages and minor *ināms* granted at lenient rates of assessment by former Rājās to Brāhmans and the old militia. An inquiry into the terms on which these are held has recently been conducted and is now practically complete. Of the area occupied on the *ryotwāri* or 'minor' *inām* tenures, all but 118 acres pays money rents. The remainder is held on what is called the *amāni* system, under which the Darbār takes

as the land revenue one-half of the net produce on 'wet' lands and one-third of that on 'dry' lands, after first deducting the *swatantrams* or fees due to village officers and servants. The reasons which have caused such a large area as 50,070 acres of arable land to remain unoccupied are being investigated.

The principal food-crops are rice, *cambu* (*Pennisetum typhoideum*), *rāgi* (*Eleusine coracana*), *cholam* (*Sorghum vulgare*), and *varagu* (*Paspalum scrobiculatum*). Other important crops are horse-gram, ground-nuts (*Arachis hypogaea*), and black gram. The proportion of the cultivated area to the land available for cultivation has gradually increased during the past eight years from 66 to 84 per cent. The extent of 'wet' (irrigated) land under occupation in 1903-4 was 108,000 acres, and that of 'dry' (unirrigated) land, 170,500 acres. The irrigation sources of the State are 4 rivers, 62 dams, 7,356 artificial reservoirs, 190 channels, 3,927 jungle streams, and 18,452 wells. Of these, the reservoirs are the most important. The country is dotted with them and some are of considerable size.

Forests. The forests contain only small timber. No law regarding forests has been enacted, but sixty blocks of jungle have been marked out and 'reserved.' They cover about one-seventh of the area of the State, and some are reserved for the Rājā to shoot over. Wild cattle are occasionally caught in them and broken in and used as draught animals, as they are remarkable for their strength and endurance. Their capture has lately, however, been prohibited. Several plantations have been made near the streams and rivers, and these contain 245,000 casuarina trees, the wood of which makes excellent fuel. The principal sources of forest revenue are the sale of fuel and minor produce such as gums, tanning barks, &c., the lease of the right to collect leaves for manure, tanning bark, *Nux vomica*, and red ochre, seigniorage fees on granite and laterite removed, licence fees for stone-quarrying, stone-masons' licences, and a tax on brick-moulds. The total forest revenue in 1903-4 amounted to Rs. 35,000.

Minerals. Minerals are few. Iron ore is found in places but is not mined. Red ochre is procurable in abundance and is extracted in large quantities. Granite and laterite are used for building. The laterite is a very hard variety, and the old fort of Kīlvellikkottai is built entirely of it.

Manufactures. There are no large industries in the State. Silk fabrics are made at Pudukkottai town, the number of silk-weavers' houses being about 200. Cotton stuffs are woven there and at Karambakudi, and black woollen blankets at Sellukudi. Rush mats

and bell-metal vessels are made in and about Karambakudi. These are much in demand both within and outside the State. Bangles are made at Vaittūr. Perfumes are manufactured at Pudukkottai and exported to some extent, being much appreciated among Hindus.

Commerce.

The other chief articles of export are ground-nuts, *Nux vomica* seeds, *āvāram* bark used for tanning leather, and acacia bark employed in distilleries. The chief imports are salt, rice, European piece-goods, and tobacco. The Chettis conduct the greater part of the trade, and there are also a considerable number of Labbais, an enterprising body of mixed Musalmān descent.

Means of communication.

The State is well provided with roads, which are kept in good condition. Pudukkottai town is connected with Trichinopoly by two routes, one running direct through Kīranūr and the other passing through Iluppūr and Virālimalai on the Madura trunk road. It is also connected by road with Tanjore, Būdalūr, Gandarvakottai, Pudukkottai, and Arantāngi in Tanjore District, and with Melūr in Madura. There are in addition several smaller lines within the State. The total length of all the roads is 272 miles, and the outlay on them in 1903-4 was Rs. 45,000. Light spring carts pulled by ponies (known as *jatkas*) ply from Tanjore and Trichinopoly to Pudukkottai, the distances being 36 and 33 miles respectively. There is no railway in the State; but the Darbār has been asked whether it is prepared to finance that portion of a line from Trichinopoly to Pudukkottai town which would run through the territory of the Rājā, and another proposal contemplates the construction of a line from Madura District, through this State, to Tanjore. The chief town and seven other places are connected with Trichinopoly by telegraph. There are twenty-eight post offices. Both the post and telegraph offices are under the management of the Government of India Postal and Telegraph departments.

Famine.

The State suffered severely in the famine of 1876-8, when relief works were opened and gratuitous relief was distributed. The country is entirely dependent upon timely local rainfall, but actual famines are of rare occurrence. In 1894-5, owing to the failure of rain in both monsoons, distress was felt in the northern part of it. The Rājā visited the affected parts, and ordered the suspension of the collection of the land revenue and the opening of relief works.

General administration.

The administration of the State is in the hands of a council, consisting of the Rājā, the Dīwān (formerly called the Sirkele),

and a Councillor. Orders are passed and correspondence carried on in the name of the Dīwān-in-Council. The State is guided in all important matters by the advice and counsel of the British Government, represented by the Political Agent, the Collector of Trichinopoly. Since 1902, an assembly of representatives has been constituted on the lines of the Mysore Assembly. It is composed of 30 persons, chosen by the State as representatives of the various classes of the community, nominations being made by the heads of departments and by public institutions. The assembly meets once a year. The results of the preceding year's administration and the budget for the ensuing year are placed before it, and its members are allowed the privilege of interpellation on all matters connected with the administration.

The immediate control of the revenue and magisterial departments is in the hands of the Dīwān Peshkār, who is also the chief magistrate and is invested with first-class magisterial powers. The salt, excise, and forest departments are under the control of the Superintendent of salt, *ābkāri*, and separate revenue. The Superintendent of police in the Trichinopoly District is *ex officio* Superintendent of the force within the State. The country is divided for administrative purposes into three *tāluks*: Kolattūr, the head-quarters of which is at Kīranūr, and Alangudi and Tirumayam, the head-quarters of which are the places after which they are named. In each of these is stationed a *tahsīldār*, who is responsible for land revenue matters, an inspector of salt, *ābkāri*, and separate revenue, a sub-magistrate, and an inspector of police.

Legislation. Legislative measures are enacted by the Dīwān-in-Council, and, as in the case of the other Native States subject to the Madras Government, are forwarded to that Government for approval before being passed into law.

Civil justice. Civil justice is administered by the Chief Court at Pudukkottai, which consists of three judges and a registrar who has Small Cause jurisdiction. There are also ten Small Cause Courts for rural areas, sub-registrars of assurances being invested with the powers of Small Cause judges to about the same extent as Village Munsifs in British territory. All appeals are disposed of by the Chief Court.

Criminal justice. The criminal courts are the Sessions court, presided over by the judges of the Chief Court sitting singly by turns; and the courts of the chief magistrate, who has first-class powers; the special magistrate, Pudukkottai, with first- or second-class powers; the town second-class magistrate; three *tāluk* magis-

trates and three stationary magistrates with second-class powers; and six sub-registrars invested with third-class powers. All appeals lie to the Chief Court. Serious offences, such as dacoity or robbery, are rare, the greater part of the crime consisting of house-breaking and thefts. Sentences of rigorous imprisonment for life and forfeiture of property, the former of which, under the law of the State, takes the place of capital punishment, are subject to the confirmation of the Rājā. The criminal courts have no jurisdiction over European British subjects, and any offenders of this class are handed over for trial to the Political Agent, who is Justice of the Peace for the State. The receipts under Law and Justice amounted in 1903-4 to Rs. 61,000, and the charges to Rs. 40,000.

Registration. The Regulation of the State dealing with the registration of assurances differs but little from the Indian Registration Act, the chief point of divergence being that under the former registration is compulsory in the case of several kinds of documents regarding which it is optional under the latter. There are twelve registry offices, including that of the head of the department, who is called the Registrar of Assurances. The cost of the department is Rs. 18,000.

Finance. The total revenue of the State amounted in 1903-4 to Rs. 11,28,000, and the total expenditure to Rs. 10,21,000. The chief items are as follows:—

Receipts.	Rs.	Expenditure.	Rs.
Land revenue	7,97,000	Palace	2,49,000
Salt	38,000	Administration	1,85,000
Excise on spirits and drugs	84,000	Religious and charitable endowments	1,21,000
Forests	35,000	Public works	2,40,000
Assessed taxes	7,400		
Registration	29,000		
Total	9,90,400	Total	7,95,000

The ordinary currency of the State is the British Indian coinage, but a small round copper coin, worth one-twentieth of an anna and called *amman-kāsu*, is also current. This is minted for the State, and bears on one side the word *vijaya* ('victory') in Telugu, and on the other a representation of the Rājā's tutelary goddess Bruhadāmbā. This deity is the consort of the god Gokarnaswāmi, and a temple to them stands in Tirugokarnam, a suburb of Pudukkottai town. To this the Rājās are wont to go on occasions of public worship.

Land revenue administration. The land revenue consists of the assessment on land held on the *ryotwāri* tenure, quit-rents on certain classes of *ināms*, a small tax on *jāgirs*, and the value of the State's share of the produce of land held under the *amāni* system above referred to. The rates of assessment on 'wet' land on *ryotwāri* tenure vary from Rs. 4 to Rs. 10 per acre, and those on 'dry' land from 6½ annas to Rs. 1-8-0. There are also special rates for 'dry' land on which rice is grown.

The history of the land revenue possesses some interest. In 1878, when Mr. (afterwards Sir) A. Seshayya Sāstri became Dīwān, about 16,000 acres were held on a tenure under which the cultivator and the State shared the produce. The Dīwān substituted for the State's share a money assessment based upon the average out-turn for the five years from 1871 to 1875 and the average selling price of grain during those years. No remissions of the assessment so arrived at were to be allowed on account of bad seasons. The village accountants' fees (formerly payable in kind) were commuted into a cess of 6 pies per rupee of assessment.

It had long been customary to give a paper to each ryot every year, which specified the fields which happened to be in his possession and were to be cultivated by him in that year. The ryots were not, however, considered to possess any occupancy rights in their land or any power of transfer. Their status has now been changed from that of tenants-at-will into that of proprietors; and owners of land are now able to mortgage, transfer, or sell it, proceedings which would have been void at law under the previous system. These reforms, however, quickly showed very clearly the necessity for a regular survey and settlement. The cadastral survey of the State is now in progress. On its completion, the settlement will be taken in hand.

Salt. Revenue used to be derived from the earth-salt manufactured from saline soils as a State monopoly; but in 1887 the Madras Government arranged with the Darbār for the suppression of this manufacture, and entered into a convention (still in force) by which it agreed to pay the Darbār Rs. 38,000 annually as compensation, imposing at the same time the obligation of maintaining a preventive staff costing about Rs. 10,000.

Excise. The system of collection of the excise revenue is almost the same as that in the Madras Presidency. A State distillery is maintained for the manufacture of country spirit, and rents are collected on licences for retail shops and on palm-

trees permitted to be tapped for their juice. Still-head duty is collected on the liquor issued from the distillery at rates nearly equal to those obtaining in the Madras Presidency. There are 108 arrack (spirit) and 233 toddy (fermented palm-juice) shops, one foreign liquor shop, and also one shop in the chief town for the sale of opium and *gānja*. The cost of the excise department is Rs. 8,000.

Miscellaneous revenue.

Under the head of assessed taxes among the sources of revenue given above is included the *mohtarfa*, which consists of a tax on houses and trades. Terraced houses are assessed at R. 1 per annum, tiled houses at 8 annas, thatched houses at 4 annas, and huts at 6 pies. Shops and bazars are charged at the rate of Rs. 3, 2, 1, and 8 annas, according to their importance. Silk looms pay R. 1 each, other looms 12 annas, and oil-mills Rs. 2 per annum.

Tolls are levied in Pudukkottai town and at eight other gates. The proceeds amount to Rs. 30,000. A revenue of about Rs. 20,000 is derived from market fees, cart-stand fees, and rent of public buildings. There is no stamp law in the State. Court fees are levied in cash.

Public works.

The Public Works department is under the control of an Engineer, aided by two Assistant Engineers and a subordinate staff. The care of the State buildings and the maintenance and construction of irrigation works form the principal part of its business.

Military.

The military force now maintained consists of 22 officers, 90 privates (of whom 6 are gunners), and 16 troopers, who are known as the Rājā's bodyguard and are under the immediate control of an officer called the commandant.

Police and jails.

The strength of the police force is one Chief Inspector, 5 inspectors, 28 head constables, and 229 constables. There are 23 police stations. As has already been mentioned, the force is in charge of the District Superintendent of Trichinopoly. The annual cost of the department is Rs. 35,000.

The seven prisons include the Central jail at Pudukkottai town and six subsidiary jails. The convicts in the former are employed in making wicker baskets, ropes, cloths, bell-metal vessels, and net bags, in gardening, and in pressing gingelly oil. They are also employed in the conservancy of the town. The value of the labour done both within and without the jail by them in 1903-4 was Rs. 2,200. There were 50 convicts in jail at the end of 1903-4 (8 of whom were life-convicts) and 15 under-trial prisoners, besides 5 civil prisoners, all of whom were lunatics. The cellular system is not in force in the jail, but

arrangements have been made to introduce it. The cost of the department is about Rs. 7,000.

Education. According to the Census of 1901 Pudukkottai, if it had been a British District, would have taken the fifth place among the twenty-two Districts of the Madras Presidency as regards the education of its male population, but would have ranked last as regards the education of its girls, the actual percentages of the literate of each sex to the total population of that sex being 15·6 and 0·4 respectively. At the end of 1903-4, there were 35 State, 146 aided, and 96 unaided educational institutions. Of these, 255 were primary, 13 secondary, and 6 special schools. Altogether, 8,397 boys and 846 girls were under instruction. Pudukkottai town possesses a second-grade college, teaching up to the F.A. examination, which at the close of 1903-4 contained 36 students in the college department. Provision has been made in the institution for the religious instruction of Hindu boys, and physical development also receives special attention. A school called the Vāni Vilāsa Veda Sāstra Pāthsāla teaches Sanskrit on Oriental lines. The staff consists of eight *pandits*, three for the Vedas, one each for Tarka (logic) and Vedānta (metaphysics), one for Mīmāmsa (a school of philosophy), and two for Kāvya (poetry). The library contains over a thousand volumes on paper and *cadjan* (palm-leaves). About half the students get daily allowances in kind from the assignments made to religious and charitable institutions. The town State girls' school teaches up to the lower secondary standard. There is an industrial school at Pudukkottai under the control of the Engineer. The State also endeavours to spread general elementary education. Girls of all castes and Muhammadans and Panchama boys are taught free. In the lower classes non-Brāhman Hindus form the majority of the pupils. Of the girls, the most numerous are those of the Muhammadan community. In 1903-4 the receipts from fees, &c., amounted to Rs. 14,000 and the gross expenditure was Rs. 40,000, the net cost to the State being Rs. 26,000. Of the total outlay, Rs. 15,000 was devoted to primary education. The control of the Educational department is vested in the Principal of the College, Mr. Rādhākrishna Ayyar, a gentleman known even in Europe for his works on arithmetic.

Medical. Pudukkottai town possesses a well-equipped hospital, with 28 beds for males and 4 for females, and also a dispensary for women and children, while 7 other dispensaries have been opened in the rural parts. The dispensary for women and children is in charge of a lady apothecary, and the other

institutions are under the control of the chief medical and sanitary officer. In 1903-4, 440 in-patients and 85,700 out-patients were treated, and the number of operations performed was 1,800.

Vaccination. The vaccination staff, consisting of one inspector and ten vaccinators, works under the supervision of the chief medical and sanitary officer. Twenty-six per mille of the population were successfully vaccinated in 1903-4. Vaccination is compulsory only in Pudukkottai town.

Sanitation. The conservancy of this town is controlled by a sanitary board, with a full-time secretary as its chief executive officer. Conservancy in other parts is attended to by the revenue staff, acting upon the advice and suggestions of the chief medical and sanitary officer. The total annual cost of the Medical department, including vaccination, is about Rs. 26,000.

[For further particulars of the State see its Annual Administration Reports and the *Trichinopoly District Manual* (1878).]

Pudukkottai Town.—Capital of the State of Pudukkottai, Madras, situated in 10° 23′ N. and 78° 49′ E., 33 miles by road from Trichinopoly. Population in 1901, 20,347, compared with 16,885 in 1891 and 15,384 in 1881. Hindus number 18,459; Musalmāns, 1344; and Christians, 544. It is an unusually clean, airy and well-built town, possessing many fine public buildings. At the suggestion of Sir W. Blackburne, the Political Agent, Rājā Vijaya Raghunātha Rājā Bahādur, who died in 1825, pulled down the whole of the old town, which was built with narrow and tortuous lanes, and rebuilt it in regular streets, a large number of the houses being tiled. The place was further improved in the time of Sir A. Seshayya Sāstri, K.C.S.I., who was Dīwān-Regent for some years when the present Rājā was a minor. The fine public buildings outside the town were erected by him. The chief of these are the new palace, the public offices, the hospital, the jail, the college, the Residency, and the summer villa. The old palace, which contains the Rājā's Darbār room, is in the heart of the town. This building is not used except on state occasions and is somewhat out of repair. Two large drinking-water tanks in the town (Pallavankulam and Pudukulam) and several others were also improved at considerable cost, but with the most beneficial results, during Sir A. Seshayya Sāstri's administration. Particulars of the medical and educational institutions in the town and other matters will be found in the article on the State.

BANGANAPALLE STATE

Banganapalle.—One of the five Native States in political relations with the Madras Government, the Political Agent being the Collector of Kurnool. It lies between 15° 3′ and 15° 29′ N. and 77° 59′ and 78° 22′ E., on the table-land of the Southern Deccan within Kurnool District, at a height of about 800 feet above sea-level. It is bounded on the north by the Rāmallakota and Nandyāl *tāluks* of that District, on the east and south by Nandyāl and Koilkuntla, and on the west by Pattikonda and Koilkuntla. The total area is 255 square miles. The State consists of two detached portions. The main part is a straggling area beginning at the Rāmpur pass over the Erramala hills on the west and extending eastwards to Banganapalle town, and thence southwards almost parallel to the Kunderu river through a tract of rich black cotton soil. The detached portion consists of three hill villages, comprising an area of about 20 square miles surrounded by part of the Koilkuntla *tāluk*. Except the Erramalas, which skirt the country on the west, two long spurs running parallel to one another in the western portion and enclosing the valley of the Jurreru, there are no hills of importance in the State. Even these are low and tame in appearance. The country is generally flat, but the western arm, extending from the Rāmpur pass to Banganapalle town, is hilly. It is also generally bare except in the west and round Banganapalle, where the Nawāb has planted groves of trees. The surface is covered with black cotton soil in the south, and in the other parts with red gravelly earth, sometimes very stony. The whole country slopes eastward to the Kunderu, and is well drained by that river and the Jurreru, which are the chief streams. The Jurreru rises in the Erramalas, flows past Banganapalle town, and enters the Kunderu after a course of 45 miles. A small stream called the Paleru crosses the southern limb of the territory. Only the Jurreru, which is perennial, is useful for irrigation. Boundaries, configuration, hill and river systems.

The geology of Banganapalle is simple. The lowest rocks are of the Cuddapah formation, and occupy the bottom of the Jurreru valley between Banganapalle town westward and Pasupula. They consist chiefly of argillites, with intercalated Geology.

trap flows of the Cheyyār group. Resting on them is a strip of conglomerate, west of the town, which has been mined for diamonds for many generations. There are no forests yielding revenue.

na. The larger game includes the leopard, hyena, wolf, antelope, and wild hog; and the feathered game, partridge, quail, and jungle-fowl. The streams abound in fish of inferior kinds.

mate. The climate is hot, but healthier than the surrounding portions of Kurnool District. November, December, and January are pleasantly cool and dry; February, March, April, and May are increasingly hot; in June, July, August, and September the south-west monsoon brings heavy rain and high winds. The annual rainfall averages about 30 inches. Fever is endemic, but is nowhere of a severe type.

story. The oldest extant title-deed of the family, which is dated in 1761, records the fact that the Nizām in that year appointed one Husain Alī Khān as Kiladār (commandant) and Faujdār (magistrate) of Banganapalle. This document refers to the removal of one Muhammad Beg Khān, apparently from the post given to Husain Alī Khān; but the nature of that transaction is not indicated. It would seem, however, from the manuscript records of the family that Muhammad Beg Khān was the great-grandfather of Husain Alī Khān, and the adopted son of a person of the same name appointed Kiladār of Banganapalle by the Sultān of Bijāpur in the last half of the seventeenth century. A document still preserved at Banganapalle bears the seal of Muhammad Beg Khān and the date 1131 Hijra (A.D. 1718–19).

Within a few years the country fell under the dominion of Mysore. A translation of a letter of confirmation, dated 1783, at the beginning of Tipū's reign, is preserved in the archives of the Madras Government. In this letter Tipū refers to the assiduity of the recently deceased Husain Alī Khān in the Sarkār affairs, and confers the *jāgīr* of Banganapalle on his son Ghulām Alī Khān. As a matter of fact, it would appear that, notwithstanding this grant, Tipū at once resumed the *jāgīr*, and expelled Ghulām Alī Khān. Letters written by Tipū in the same year summon Ghulām Alī Khān to his presence and refuse to accept his excuses for not coming. Another, dated 1790, to the Kiladār of Banganapalle, is addressed to one Yūsuf. According to the traditions of the family, Tipū's deputy was defeated in a pitched battle by Ghulām Alī Khān and his uncle Asad Alī Khān about seven years after Ghulām Alī Khān's expulsion. A document is extant purporting to be an

order of the Nizām, dated 1790, conferring Banganapalle on Asad Alī Khān and Ghulām Alī Khān. It is, however, of doubtful authenticity. These two persons are referred to as joint *jāgīrdārs* in the correspondence of the year 1800. The present family traces its descent from Ghulām Alī Khān, who survived his uncle. In 1800, when the Nizām handed over Kurnool and the other CEDED DISTRICTS to the East India Company in exchange for a subsidiary force to be stationed in his territories, he transferred to the Madras Government his control over Banganapalle. At the same time he stipulated that, as it was the sole means of subsistence of a numerous family, the *jāgīr* should be continued to Asad Alī Khān and Ghulām Alī Khān, and this was agreed to by the British representative.

Whatever had been the precise relations of the *jāgīrdārs* to the Court of Hyderābād, the British at first neither levied tribute from them nor, as far as can be ascertained, exercised any authority over them. Indeed the *jāgīrdār* as late as 1821 seemed to consider himself still dependent on the Nizām. He usually resided at Hyderābād, and civil and criminal justice were nearly at a stand. Internal government now went from bad to worse, and at times shameful disorder prevailed. Finally (1831) the *jāgīrdār* was driven out of the country and took refuge in British territory. These disturbances induced the British Government to resume the *jāgīr* in 1832. The Government did not at this time consider that they were pledged to its continuance, and a proclamation notifying the resumption was issued in 1835. From 1835 to 1848 the State was accordingly administered by the Madras Government. The stipulation of the Nizām for the continuance of the *jāgir* was, however, brought to notice in 1837; and the Court of Directors decided in the following year that the Nizām's stipulation entitled the holder of the estate to be treated as an hereditary *jāgīrdār*, that the resumption must be cancelled, and the *jāgīr* given back as soon as it was free from debt. Accordingly in 1848 it was restored to the head of the family, Ghulām Muhammad Alī, grandson of Ghulām Alī Khān; and, as had been the case before 1831, he was permitted to enjoy the *jāgīr* without payment of tribute and to administer its civil and criminal justice himself with certain restrictions. A *sanad* conferring these powers was issued in 1849. In 1862 another *sanad* was granted to him, guaranteeing that the British Government would permit any succession to the *jāgīr* which might be legitimate according to Muhammadan law.

Ghulām Muhammad Alī died in 1868, and was succeeded

by his nephew Fateh Alī Khān, the lately deceased incumbent, who received the hereditary title of Nawāb in 1876. In consequence of his misgovernment, he was removed in January, 1905, from the direct administration of the State, which was placed under the management of an Assistant Political Agent. The Nawāb died three months later, and has been succeeded by his son Saiyid Ghulām Alī Khān, who is thirty-one years of age and was educated privately at Banganapalle and Kurnool. His succession has been recognized, but he has not yet received a *sanad*, and the Assistant Political Agent meanwhile continues to conduct the administration.

ple.

The number of villages in the State is 63, and there are no towns. The population was 45,208 in 1871, 30,754 in 1881, 34,596 in 1891, and 32,264 in 1901. It will be seen that the State has not yet regained the inhabitants lost during the great famine of 1876–8, and that even the last decade shows a decline. Banganapalle town was formerly a place of some importance owing to its position on the main road from Gooty to Cumbum; but it has declined greatly since the opening of the Southern Mahratta Railway, and its present population is less than 4,000.

Though the density of the population is a little higher than in the surrounding District of Kurnool, the State is most sparsely peopled, there being only 127 persons per square mile against an average of 270 for the Presidency. The ruler is a Muhammadan, but the majority of the population are Hindus, who number 25,735, or nearly 80 per cent. of the total. The Muhammadans come next, being 6,232, or 19 per cent.; many of them live in Banganapalle town. The Christians number only 297 and there are no missions in the State. Telugu is the prevailing language, being spoken by 81 per cent. of the population, and Hindustāni is more prevalent than in Kurnool, being the vernacular of 17 per cent.

eir tes and cupa- ns.

The Kāpus, the chief agriculturist caste of the Telugu country, are the most numerous community among the Hindus, forming nearly 21 per cent. of the total. Next in order come the Mālas and Mādigas, who correspond to the Paraiyans and Chakkiliyans of the south. The Gollas (shepherds) number 2,421, and the Boyas or *shikāri* caste 2,286.

Among the Musalmāns, the Shaikhs are the most numerous tribe, being 77 per cent. of the total. Next come the Saiyids, who number 16 per cent. The Musalmāns in the State are mostly Sunnis, though the Nawāb himself is a Shiah. The Christian population consists almost wholly of natives.

The general agricultural conditions and practice differ but little from those in the neighbouring British *tāluks* of Kurnool District. The chief food-grains grown are *cholam* (*Sorghum vulgare*), *cambu* (*Pennisetum typhoideum*), *rāgi* (*Eleusine coracana*), rice, *korra* (*Setaria italica*), and wheat. Bengal gram is the most important of the pulses, and cotton is the most widely cultivated industrial crop. General agricultural conditions and principal crops.

No accurate statistics are available of the total area of the State, or of the forest, arable, occupied, and cultivated areas. The Nawāb had the *jāgīr* surveyed recently by a British survey party working under the Deputy-Superintendent of Revenue Survey, Kurnool. The total area, excluding hill blocks, was found to be 218 square miles, but further details are not available. The total occupied area is returned as 74,284 acres, of which 72,333 acres are 'dry' land, 1,277 acres 'wet,' and 674 acres garden. These figures include 21,870 acres of sub-*jāgīrs* which till recently were enjoyed as estates by the relations of the former Nawābs. No reliable statistics of cultivation exist.

There are no irrigation works of importance. About twenty dams are periodically constructed across the Jurreru and water is diverted to small tanks. Only one tank is of any importance, but a good deal of cultivation is supplied by wells sunk on the banks of the Jurreru. Irrigation.

Lime is found at Palkūr and among the hills. Many years ago, copper is said to have been obtained; and quite recently a Madras merchant stated that he had found traces of copper and coal and diamond shale, and has obtained a lease for the mining of these over 18 square miles. About a mile to the east of Banganapalle town is a small diamond mine, which formerly yielded some stones but is not worked now. The revenue from diamonds is estimated at Rs. 2,300 in the schedule to the *sanad* of 1761. Minerals.

The principal exports are *cholam*, *ghī*, skins, mangoes, oranges, and lacquer-ware. For the last three of these the town of Banganapalle is noted. The principal imports are rice, sugar, cloths, salt, jaggery (coarse sugar), and kerosene oil. Commerce.

The only roads are the Rāmpur pass, over the Erramalas, running from west to east through the heart of the State, and the Paniem-Owk connecting the Paniem railway station with Banganapalle town. These two join within a mile of Banganapalle. The former was constructed by the Kurnool District board, and was once an important trade route between the east coast and the Districts of Anantapur and Bellary. It Roads.

crosses the Nallamalais by the Nandikanama pass and the Erramalas by the Rāmpur pass. It is now very little used and consequently neglected. The other road was constructed by the Nawāb to connect his capital with Paniem railway station, which is 17 miles distant, and was continued to the south to link it with the Owk-Tādpatri frontier road. It is maintained in good condition. The total length of the roads is 53 miles, but they have till now been very badly maintained. A road cess is levied for the purpose.

Famine. The State is situated within the famine zone of the Presidency and suffered severely in the great distress of 1876–8. It was also affected by all the other bad seasons which have afflicted Kurnool.

Administration. The administration was till recently conducted by the Nawāb in person with the assistance of a Dīwān, who was an officer of the British service with a salary of Rs. 250 a month. The removal, at the beginning of 1905, of the Nawāb from the direct management of the *jāgīr* and the temporary substitution of an Assistant Political Agent have already been mentioned. The latter is now administering the State personally without a Dīwān. He is assisted by a *tahsīldār*, who is responsible for the revenue administration.

Civil courts. There are two civil courts called the Adālat Court and the Sadr Court. The former is presided over by a Munsif, who is empowered to decide suits up to the value of Rs. 3,000. Original suits above that amount should only be filed in the Sadr Court, which used to be presided over nominally by the Nawāb, but in practice by the Dīwān. The Assistant Political Agent is now president. All appeals from the Munsif's decisions lie to this court. No special authority exists by which the civil courts exercise powers over natives of British India or European British subjects.

Criminal courts. Two courts exist for the administration of criminal justice: namely, the magistrate's court and the Sadr Court. The former is presided over by a magistrate, who is empowered to award imprisonment for a term not exceeding one year, a fine not exceeding Rs. 500, and whipping up to twelve stripes. The Sadr Court, presided over formerly by the Nawāb or Dīwān but now by the Assistant Political Agent, is both a Court of Session and an Appellate Court to which appeals from the magistrate's decisions are preferred. The powers of the Sadr Court are unlimited, except that sentences of mutilation are absolutely prohibited and that capital sentences must be confirmed by the Government of Madras.

The law relating to offences and criminal procedure which applies in British India is followed in Banganapalle. The powers of the courts are absolute, subject to the limitations mentioned above, as regards natives of the State and natives of British India who have committed offences and remain in the State. As regards natives of India who have escaped into British territory after committing offences in the State, the Political Agent may either certify that the case should be prosecuted in British India or surrender the accused to the Banganapalle authorities for trial in that State, subject to certain exceptions. The Banganapalle criminal courts cannot exercise any authority over European British subjects. Except house-breaking and theft, grave crime is not prevalent.

No laws and regulations have been framed by the Nawāb separately for the State. The Indian Penal Code and the Civil and Criminal Procedure Codes of British India are in force, having been adopted by the Nawāb as laws of the State, and other British enactments are similarly adopted as occasion requires.

Salt and *ābkāri* revenue.

As regards salt, the Nawāb has undertaken absolutely to prohibit the manufacture of earth-salt in his State on receipt of an annual compensation of Rs. 3,000. No opium is grown, and the Nawāb gets his supply from Madras on licences countersigned by the Political Agent. He has his own arrangements for the administration of the *ābkāri* revenue. The import of spirits manufactured in the State into British territory is prohibited. Toddy may, however, be imported from Banganapalle on payment of one anna per gallon by a fixed route, on which there is a *chaukī* or customs station. Until 1904 the Nawāb controlled his own *gānja* revenue; but he has since agreed to prohibit absolutely *gānja* cultivation, in return for an annual payment of Rs. 3,060 as compensation.

Stamps and post office.

The Nawāb administers his own stamp revenue, adopting the Indian Stamp Act as his model. There are no telegraphs in the State. The State post office was amalgamated with the British postal system on January 1, 1900, when the Nawāb issued a Regulation applying the provisions of the Indian Post Office Act to Banganapalle. The only post office is at Banganapalle town.

Land revenue administration and land assessments.

Ghulām Alī Khān, the sole *jāgīrdār* after 1815, made a settlement in 1820 with a view to prevent future disputes among his relatives, by which he assigned certain villages (called sub-*jāgīrs*) to each of his cousins and other members of the family. These sub-*jāgīrs* were, from the beginning, resumable at will; they were resumed under the Government management of 1835–48;

were granted again when the estate was restored, and have recently (1905) been finally resumed by the Madras Government. The sub-*jāgīrdārs* owned twenty-eight villages, and generally enjoyed the land revenue without paying any *peshkash* to the Nawāb.

Very little is known of the land revenue history of the rest of the State. The rates of assessment are not settled, but vary with the will of the Nawāb. To remove the present uncertainties of tenure and land assessment and to place the land revenue administration upon a satisfactory and intelligible basis, the late Nawāb, as already mentioned, recently had the State surveyed by a British survey party and contemplated introducing a revenue settlement.

Revenue and expenditure. The total receipts in 1904-5 amounted to Rs. 96,000, of which Rs. 21,700, or nearly one-fourth, was made up of deposits and loans. Of the remainder, land revenue contributed Rs. 24,000; salt, excise, *mohtarfa*, and stamps, Rs. 23,500; Rs. 9,200 was received from medical sources; and Rs. 5,000 and Rs. 3,200 were collected from road cess and forests respectively. The total expenditure amounted to 1·2 lakhs, of which Rs. 62,500, or more than 50 per cent., was incurred on account of the Nawāb's household and family. The next considerable item is the establishment, which cost Rs. 23,100, or a little less than 20 per cent. About Rs. 12,000 was given by way of pensions in lieu of sub-*jāgīrs*.

Police and jails. The police force consisted in 1904-5 of 5 head constables, 59 constables, and one bugler, assisted by 131 *talaiyāris*. There are five police stations. A jail is maintained at Banganapalle, the local medical officer being *ex officio* superintendent.

Education. Education is very backward. The State maintains two schools, one of which teaches up to the first and the other up to the fourth standard. In 1904-5 there were 120 pupils (all boys) in them, and the cost to the State was Rs. 1,022. Some village schools are maintained in rural tracts, but no statistics are available regarding them.

Hospitals. The State possesses only one hospital, at Banganapalle town. The total number of cases treated in 1904-5 was 13,169; 106 surgical operations were performed, and the expenditure was Rs. 2,535.

Vaccination. The number of children vaccinated in 1904-5 was 763, of which only 621 cases, or 19 per 1,000 of the population, were successful. The results are unsatisfactory when compared with those of the adjoining British territory, where the corresponding figure was 35·6 per 1,000.

SANDŪR STATE

Sandūr.—The smallest and least populous of the five Native States in direct political relations with the Government of Madras. It is surrounded by the District of Bellary, the Collector of which is the Political Agent, and lies between 14° 58′ and 15° 14′ N. and 76° 25′ and 76° 42′ E. In shape it is like a torpedo, with its longer axis running from north-west to south-east, and it is 24 miles long and, at the broadest part, 13 wide. The State is 161 square miles in area, contains 20 villages, and has a population (1901) of 11,200, of whom between one-third and one-half live in Sandūr town. It consists of a long, narrow valley, shut in by two nearly parallel enclosing walls of hills covered with long grass and forest. These hills are formed of Dhārwār rocks, which were deposited upon the older granites and then, as the earth's surface cooled, were, with the granites, subjected to enormous lateral pressure, and so crumpled up into huge wrinkles. The Sandūr valley is the hollow of one of these wrinkles, and the hills surrounding it are the sides of a huge trough into which the rocks have been squeezed. The strata in them stand on edge, curve gradually below the valley, and reappear, again on edge, on the other side. Boundaries and physical aspects.

The two enclosing lines of hill are smooth in outline, flat-topped, and very level along their summits, so that from outside the State they resemble long lines of wall shutting it in. Their highest point is at the south-east corner, above the Kumāraswāmi temple referred to later, where they run up to 3,400 feet. Rāmanmalai, in the centre of the southern of the two lines, just above RĀMANDRUG hill station, is 3,256 feet above the sea. At right angles to the longer axis of the valley, and through both the walls of hill which enclose it, runs the Narihalla, draining almost the whole of it. The beautiful little gorges in the two lines of hills, by which the stream first enters and then leaves the State, are among the most striking features of the country. That on the western side, by which it enters, is called the Obalagandi and lies about 2½ miles from Sandūr town. At the bottom, where the river runs, it is only some 15 yards wide. On either hand the dark purple and deep red hematite rocks which form the

sides of this natural gate rise precipitously to a height of 180 feet, gradually nearing one another as they ascend. The bed of the stream is strewn with masses of rock which appear to have fallen from the sides of the gate, and their rich colours form a fine contrast to the green of the woods with which the sides of the hills are here clothed. The Bhīmagandi, as the eastern gorge by which the Narihalla leaves the valley is called, is wider, but equally picturesque.

Fauna. Among the game of the State may be mentioned occasional tigers, numerous wild hog, and not a few *sāmbar*. Peafowl are plentiful, but are held sacred to the god Kumāraswāmi.

Climate and rainfall. The valley is cooler than the neighbouring District of Bellary and receives more rain than any part of it, the average fall approaching 30 inches annually. It is singularly free from malaria, considering its conformation.

History. Sandūr has an interesting history. In 1728 it was seized by an ancestor of the present Rājā, a Marāthā named Siddojī Rao. He belonged to a family called the Ghorpades, which name was earned, according to tradition, by one of them who scaled a precipitous fort by clinging to an iguana (*ghorpad*) which was crawling up it. Siddojī Rao's grandfather had been in the service of the Sultān of Bijāpur, and his three sons joined in the Marāthā revolt against that king and prospered in consequence. The second of them, Siddojī's father, earned the hereditary titles of Hindu Rao and Māmalikat (Mamlukat) Madār ('centre of the State'), which are still used by the Rājās of Sandūr. Siddojī's eldest son was the famous Morāri Rao of GOOTY, who followed his father as ruler of the State. In the campaign of 1775–6 Haidar Alī, after getting possession of BELLARY, took Gooty from him, and sent him to Kabbāldurga hill in Mysore, where he died soon afterwards. Haidar annexed the whole territory, including Sandūr, and began the fort of Krishnānagar which is still standing there. It was finished and garrisoned by his son Tipū.

Morāri Rao had two sons, but they both died in childhood; and he adopted a distant cousin named Siva Rao, who fell about 1785 in a vain attempt to turn Tipū's troops out of Sandūr, and was succeeded by his son Siddojī, then two years old. Siddojī was put under the guardianship of his uncle Venkata Rao, who in 1790, on his ward's behalf, attacked and drove out Tipū's garrison, and gained possession of the place. After the peace with Tipū in 1792 the Ghorpades were allowed to retain Sandūr as part of the ancient inheritance of the family, but none of them ventured to reside there as long as Tipū was

alive. Siddojī died in 1796, aged thirteen, and his widow adopted a cousin called Siva Rao. On the death of Tipū at the fall of Seringapatam in 1799, Siva Rao went with Venkata Rao to Sandūr, and he was *jāgīrdār* there when Bellary District was ceded to the Company.

About this time the Peshwā, Bājī Rao, granted the estate to one Jaswant Rao, a distinguished officer in Sindhia's army. No prominence was given to this grant, and Siva Rao continued to hold the estate. The Peshwā, however, regarded him as a rebellious vassal, and in 1815 endeavoured to gain possession of Sandūr by marching thither with troops, under the pretence of a pilgrimage to the shrine of Kumāraswāmi. Siva Rao blocked the passes, and Bājī Rao was only allowed to go to the temple with a few attendants by the footpaths over the hills.

The Treaty of Bassein, however, bound the Company to assist the Peshwā in reducing refractory vassals, and Bājī Rao accordingly asked that the English would take Sandūr from Siva Rao. Munro was therefore detached from Dhārwār with a force to demand the surrender of the valley. Siva Rao resigned possession without opposition and in a dignified manner, and obtained in exchange an estate in Bellary District. Almost immediately afterwards, however, the Peshwā threw off the mask of friendship to the English he had been wearing, and provoked the war which ended in 1818 in the downfall of his power. Munro then recommended that Sandūr should be restored to Siva Rao, and Government agreed to the proposal. In 1826 a formal *sanad* (title-deed) for the State was granted to Siva Rao by the Madras Government. He died in 1840, and was followed by his nephew Venkata Rao, whom he had adopted. The latter died in 1861, and was succeeded by his son Sivashanmukha Rao. In 1876 he received the title of Rājā as an hereditary distinction. At his death two years later his brother Rāmachandra Vitthala Rao succeeded, who was made a C.I.E. in July, 1892, but died in the same year. Rāmachandra's son, the present Rājā, is a minor and is being educated at Bellary.

Archaeology. The chief buildings of antiquarian interest in the State are the fort of Krishnānagar already mentioned, the ancient fortress at RĀMANDRUG referred to in the account of that place, and the temple of Kumāraswāmi, which is picturesquely situated in a natural amphitheatre of wooded slopes near the top of the hills 7 miles south of Sandūr town. Kumāraswāmi, the Mars of the Hindu pantheon, was the child of Siva and

Pārvatī. The legend runs that a ferocious demon named Tārakāsura, who dwelt in this part of the Sandūr hills, so harassed the Devas that they entreated Siva to send his warrior son to rid them of the monster. Kumāraswāmi came and slew him and cut off his head. The foundation of the temple commemorates the happy event. Inscriptions in the building show that it was in existence as long ago as A.D. 950, but architecturally it is disappointing.

The people. The population of Sandūr in 1871 was 14,996. The famine of 1876–8 was severely felt, and in 1881 the inhabitants numbered only 10,532. In 1891 the total was 11,388, and in 1901, 11,200. More than 2,000 of the people are Musalmāns, a high proportion. Of the Hindus, the most numerous communities are the sect of the Lingāyats and the Bedars, the old fighting caste of this part of the country, both of whom are over 2,000 strong. Next come the Marāthās, who number 1,000; then the agriculturist Sādars and Mādigas and the shepherd Kurubas; and after them the Brāhmans, who are more than usually numerous and hold considerable grants of land. Kanarese is the prevalent vernacular.

Agriculture. The soil of the State is a rich heavy loam, which compares favourably with that of the adjoining areas. There is practically no black cotton soil, and consequently no late crops, such as cotton, are grown. By far the most important staple is *cholam* (*Sorghum vulgare*), which is followed by *korra* (*Setaria italica*) and *sajja* (*Pennisetum typhoideum*). Pulses, oilseeds, betel-leaf, and tobacco are also grown. Betel, tobacco, and a few other garden crops are irrigated from wells, there being at present no irrigation by direct flow from either tanks or channels anywhere in Sandūr. About 150 of these wells are worked, most being temporary affairs without proper lining, and the area supplied is 400 acres, on most of which two crops are raised annually. Sugar-cane used to be a profitable crop, but it is now rarely grown as it cannot compete with that cultivated under the TUNGABHADRA channels. 'Dry' crops are sown from the early part of June to the middle of July and reaped in October. If the rains are late and sowing cannot be carried out until the end of July, the out-turn is invariably inferior. Only one crop is usually obtained from 'dry' land, though if good rain falls in November or December a second crop of Bengal gram is sometimes raised. The systems of cultivation are similar to those followed in Bellary District, though perhaps manuring is more common. The agricultural implements employed are also the same. Cattle

are chiefly bought, as in that District, from drovers from Nellore on the instalment system.

Forests.

The forests of Sandūr are 87,000 acres, or about 136 square miles, in extent. Of this area, 40,000 acres have been leased to the Madras Government for twenty-five years from 1882 at an annual rental of Rs. 10,000, and are administered by the Forest department of Bellary District. These leased forests, as they are usually called, comprise the growth on the whole of the two ranges which run along each side of the valley and also some part of that on the plateaux south of Sandūr town. They contain no really heavy growth, but the supply of *Hardwickia* will eventually be considerable, and there is some teak and sandal. The thick grass is, however, of great value to cattle in times of scarcity. The chief difficulty in reproducing the growth is the constant occurrence of fires.

Minerals.

The minerals of the State are of unusual interest. The haematites found in it form probably the richest ore in India. An outcrop near the southern boundary close by the village of Kummataravu forms the crest of a ridge 150 feet in height, which apparently consists entirely of pure steel-grey crystalline haematite (specular iron) of intense hardness. Some of the softer ores used to be smelted by the natives, but the industry has been killed by the cheaper English iron. Manganese deposits have also been found in three places, the ore from one of them showing on analysis 43 per cent. of manganese dioxide. There are also traces of an old gold-mine. Jasper rocks of great beauty and a wide range of colours, and many different tints of ochreous mineral pigments, are also found in large quantities. The pigments are excavated and used for colour-washing houses, and might probably be exploited to commercial advantage.

Manufactures and trade.

Except that the shepherd caste of the Kurubas weave coarse woollen blankets from the fleeces of the sheep of the country, there are no manufactures in the State. Nor is any considerable trade conducted at or through it.

Administration.

The administration is conducted by a Dīwān, subject to the general authority of the Collector of Bellary, who is *ex officio* Political Agent for the State. The Dīwān has the powers of a divisional officer, first-class magistrate, Additional Sessions Judge, and District Munsif, while the original, appellate, and revisional powers of a Collector, District Magistrate, and District and Sessions Judge vest, in matters relating to the State, in the Political Agent. No legislation is undertaken in Sandūr.

Such of the Acts of the Legislative Councils of the Governments of India and Madras as appear to the administration to be suited to the State are brought into force by the simple process of publicly notifying that they have been adopted. Many of the executive powers exercised have no other basis than old custom held to have the force of law.

Finance. The gross income of the State averages rather more than Rs. 50,000, of which about Rs. 20,000 is derived from land revenue and the *mohtarfa* (an old-established tax levied according to no very fixed principles on professions, trades, and, in some cases, on houses); Rs. 14,000 from contracts for excise, minor forest produce, &c.; and Rs. 10,000 from the forests leased to the Madras Government. On the expenditure side the chief items are the Rājā's civil list, Rs. 14,000; the charges of administration, Rs. 13,000; and a sum of Rs. 7,576 which since 1885–6 has been set aside yearly for the repayment of the principal and interest of the debts incurred by former Rājās. The amount is so calculated as to pay off the whole of these by 1907.

Land revenue. Of the 160 square miles of which the State consists, only 12,500 acres, or about 19 square miles, are cultivable, the rest being forest or unfit for tillage. About 15 square miles (9,500 acres) are cropped at present, the remainder, often owing to its distance from the villages, being waste. A field survey under the direction of the Madras Survey department is in progress. When it has been completed, a settlement on the general principles followed in British territory will be carried out. Formerly the accounts showed the fields by their names and their dimensions in *huggas* or 'ropes,' but the length of the 'rope' was nowhere laid down. Between 1865 and 1871 a rough survey was carried out with the aid of the village accountants, and the records so obtained are the existing guides. They do not, however, show particulars of assessment.

Until very recently the assessment payable was fixed on a rack-renting system, each field being put up to auction and leased for five (or sometimes ten) years to the highest bidder. At the end of this lease the field was again put up to auction and its former tenant was thus often ousted. The uncertainty which this system involved checked any effort to improve the land permanently by fencing it, constructing wells, planting trees, and so on; and consequently it is in contemplation, as soon as the survey and settlement have been completed and the rates of assessment in accordance with them have been prescribed, to give the ryots the same occupancy rights as in

British territory. Meanwhile they are allowed to go on holding their fields at the rates fixed by the last auction held, and are not disturbed in their occupations by fresh auctions.

Salt and excise.

The State contains no natural salt or salt-earth, and therefore no complications arise with the Salt department in British territory. It grows no opium, and the little *gānja* which is raised is cultivated and harvested under official supervision. The system for the supply of liquor is simple. The exclusive right of manufacturing and selling both spirits and toddy (palm liquor) is sold to the same person. He distils spirit in Sandūr from imported jaggery (coarse sugar), and imports from elsewhere such toddy as is required, there being hardly any palm-trees in the State.

Police and crime.

Both short- and long-term prisoners are confined in the jail. The average number of convicts is about 15, and is thus too small to allow of the organization of jail manufactures; so the prisoners are usually employed in repairing the roads. The Police force consists of an Inspector, 4 head constables, and 25 constables, and there are 4 police stations. Under the terms on which the State is held, sentences of death cannot be passed without the sanction of the Government of Madras. Special rules regarding criminal jurisdiction are in force in the sanitarium of Rāmandrug. Extradition from the State is arranged through the Political Agent, and is usually sanctioned only when the offence is of a minor description. In the case of more serious crimes triable only by a Court of Session, the Political Agent proceeds against the offender as though the offence had been committed in British India.

Education.

Sandūr possesses a lower secondary school, seven primary schools, and a girls' school. The first of these was opened at the end of 1882, but the present building was erected in 1887–8, and the institution is consequently known as the Jubilee School. Neither the Muhammadans nor the Lingāyats of Sandūr place much value on education, and progress is slow. At the Census of 1901 only 109 males and 5 females in every 1,000 could read and write. The girls' school was started by the London Mission in 1898–9, and is still managed by that body.

Medical.

The Sandūr dispensary was opened in 1881 and is very popular, many patients coming to it from adjoining villages in British territory.

[Further particulars regarding Sandūr will be found in the *Bellary District Gazetteer* (1904), and its geology and minerals are referred to at length in Mr. Bruce Foote's account of the geology of that District in *Memoirs of the Geological Survey*, vol. xxv.]

FRENCH POSSESSIONS

French Possessions.—The head-quarters of the Governor of French India are at Pondicherry; and the French Possessions comprise five Settlements, with certain dependent *loges* or plots. They aggregate 203 square miles, and had a total population in 1891 of 286,347 persons and in 1901 of 273,185. These totals were made up as under: PONDICHERRY, area 115 square miles, population 174,456; KĀRIKĀL, 53 square miles, population 56,595; MAHÉ, 26 square miles, population 10,298; YANAM, 5 square miles, population 5,005; and CHANDERNAGORE, 4 square miles, population 26,831. Except the last, these possessions are all located within the Madras Presidency. The greater part of the decline in the population in the decade 1891–1901 occurred at Kārikāl.

The first French expedition into Indian waters, with a view to open up commercial relations, dates as far back as 1603. It was undertaken by private merchants at Rouen; but it failed, as also did several similar attempts which followed. In 1642 Cardinal Richelieu founded the first Compagnie des Indes Orientales, but its efforts met with no success. Colbert reconstituted the Company on a wider basis in 1664, granting exemption from taxes and a monopoly of the Indian trade for fifty years. After having twice attempted, without success, to establish itself in Madagascar, Colbert's Company again took up the idea of direct trade with India, and its President, Caron, founded in 1668 the Comptoir or agency at Surat. But on finding that city unsuited for a head establishment, he seized the harbour of Trincomalee in Ceylon from the Dutch. The Dutch, however, speedily retook Trincomalee; and Caron, passing over to the Coromandel coast, in 1672 seized St. Thomé, a Portuguese town adjoining Madras which had for twelve years been in the possession of Holland. He was, however, compelled to restore it to the Dutch in 1674.

The ruin of the Company seemed impending, when one of its agents, the celebrated François Martin, suddenly restored it. Rallying under him a handful of sixty Frenchmen, saved out of the wrecks of the settlements at Trincomalee and St. Thomé, he took up his abode at Pondicherry, then a small village,

which he purchased in 1683 from the Rājā of Gingee. He built fortifications, and a trade began to spring up; but he was unable to hold the town against the Dutch, who wrested it from him in 1693, and held it until it was restored to the French by the Treaty of Ryswick in 1699.

Pondicherry became in this year, and has ever since remained, the most important of the French Settlements in India. Its foundation was contemporaneous with that of Calcutta; like Calcutta, its site was purchased by a European Company from a native Prince; and what Job Charnock was to Calcutta, François Martin proved to Pondicherry. On its restitution to the French by the Peace of Ryswick in 1699, Martin was appointed governor, and under his able management Pondicherry became an entrepôt of trade. Chandernagore, in Lower Bengal, had been acquired by the French Company in 1688, by grant from the Delhi emperor; Mahé, on the Malabar coast, was obtained in 1725–6, under the government of M. Lenoir; Kārikāl, on the Coromandel coast, under that of M. Dumas in 1739. Yanam, on the coast of the Northern Circars, was taken possession of in 1750, and formally ceded to the French two years later.

The war of 1741 between France and England led to the attack alike of Madras and of Pondicherry, the capitals of the English and French Companies in Southern India. La Bourdonnais equipped at his own expense a fleet, and laid siege to Madras, which capitulated on September 21, 1746, and was ransomed for £400,000. The English in due time made reprisals. On April 26, 1748, they appeared before Pondicherry, but eventually retired after a most skilful defence of the town conducted by the famous Dupleix during forty-two days. The Peace of Aix-la-Chapelle put a stop to further hostilities, and left Dupleix free to further his dream of an Indian empire for France. Between 1746 and 1756, by a happy mingling of clever diplomacy and fearless daring, Dupleix and his lieutenants passed from success to success until the French reached the height of their power in the South. He obtained from the Delhi emperor the Nawābship of the Carnatic; established a protectorate over the *Sūbah* of Arcot and other parts of Southern India; made large additions to the French territory around Pondicherry, Kārikāl, and Masulipatam; and extended the French authority over the four Sarkārs of Mustafānagar, Ellore, Rājahmundry, and Chicacole, and the island of Srīrangam, formed by two arms of the Cauvery. These various annexations opened up to French commerce 200

leagues of seaboard, and yielded a revenue of £800,000 (20 million francs).

This period of power proved of short duration. Dupleix, feebly supported by the court of Versailles, met with a series of reverses from the English Company, and was recalled to Paris in 1753. A certain extent of the territory still remained to his successor; but during the Seven Years' War, the Government of France could afford no reinforcements for its Indian possessions. The English Company overran them, defeated the French at Wandiwāsh, and seized Arcot. Lally-Tollendal, after a chivalrous defence, surrendered Pondicherry on January 6, 1761. The English demolished the town; the walls, the forts, the public buildings, were all destroyed. The captured troops and all Europeans in the French Company's service were deported to France.

Two years later, the peace of 1763 restored Pondicherry and the other Indian Settlements to the French, but with their former territories greatly curtailed. The abolition of the monopoly of the French Company in 1769 threw open the trade, and Pondicherry began to show signs of new vitality. But in 1778 it again fell into the hands of the English East India Company. In 1782 the Bailli de Suffren made a brilliant effort on behalf of his countrymen, fighting four naval battles with the English in seven months, and retaking the fort of Trincomalee. Next year, the Treaty of Versailles restored Pondicherry and the other Settlements to the French, January 20, 1783. But the English Company took advantage, as usual, of the breaking out of the next war in Europe to seize the French possessions in India, and again compelled their rivals to evacuate their settlements in 1793. The Peace of Amiens once more restored them to the French in 1802; on the renewal of hostilities, the English Company again seized them, September 11, 1803. Pondicherry thus passed for the fourth time under English rule; and, during the long Napoleonic wars, the French power ceased to exist in India.

Pondicherry and the other Settlements were restored to the French by the treaties of 1814 and 1815, the territories being finally reduced to their present limits. The French had to begin the whole work of their Indian Settlements *de novo*; and an expedition arrived at Pondicherry on September 16, 1816, to re-enter on possession. On December 4, 1816, Pondicherry and Chandernagore were delivered over to them; Kārikāl on January 14, 1817; Mahé, on February 22, 1817; and Yanam, on April 12, 1817. A convention between the Governments of France

and England, dated March 7, 1815, regulated the conditions of their restoration. The French renounced their former right, under the convention of August 30, 1787, to claim annually from the English East India Company 300 chests of opium at cost price, and agreed to pay henceforth the average rates realized at the Calcutta sales. They also bound themselves to make over to the English Company, at a fixed price, all surplus salt manufactured within their restored territories over and above the requirements of the local population. In compensation for these concessions, the English agreed to pay 4 lakhs of sicca rupees (one million francs, or, say, £40,000) annually to the French Government. As it was found that the right to make salt at all in the French Settlements led to the smuggling of that article into the surrounding British Districts, the French Government was induced, on May 13, 1818, to surrender it altogether for an annual payment of 4,000 pagodas (33,600 francs, or, say, £1,344). This second treaty, although at first made for only fifteen years, has been indefinitely prolonged; the British Government supplying the French authorities with salt at cost price, and allowing the latter to sell it to their own subjects at their own rates. Difficulties still continue regarding the supply of arrack, or country liquor, that made in Pondicherry being cheaper than the British product after it has paid the heavy excise duty, and special arrangements are required along the Pondicherry border. The cost of manufacture of toddy (palm-juice liquor) is about equal in the two territories and no complications ensue. The tariff on imports into British India also necessitates the maintenance of a special land customs establishment all along the intricate frontier of the Pondicherry Settlement.

The military command and administration-in-chief of the French possessions in India are vested in a Governor, whose residence is at Pondicherry. He is assisted by a minister of the interior, secretaries in the different administrative departments, and a principal judicial officer. In 1879 local councils and a council-general were established, the members being chosen by a sort of universal suffrage within the French territories. Ten municipalities or communal boards were erected under a decree issued in 1880: namely, at Pondicherry, Oulgaret, Villenour, Bahūr, Kārikāl, La Grande Aldée, Nedungādu, Chandernagore, Mahé, and Yanam. On municipal boards natives are entitled to a proportion of the seats. Civil and criminal courts, courts of first instance, and a court of appeal compose the judicial machinery. The army and establishments

connected with the Governor and his staff at Pondicherry, and those of the local governors or *chefs de service* at Chandernagore, Yanam, Mahé, and Kārikāl, together with other head-quarters charges, necessarily engross a large proportion of the revenue. All the state and dignity of an independent Government, with four dependent ones, have to be maintained. This is effected by rigid economy, and the prestige of the French is worthily maintained in the East. Pondicherry is also the scene of considerable religious pomp and missionary activity. It forms the seat of a Préfecture Apostolique, founded in 1828, consisting of a Préfet Apostolique and a body of priests for all French India; and of the Missions Étrangères, the successors of the Mission du Carnatic founded by the Jesuits in 1776. But the chief field of this mission lies outside the French Settlements; a large proportion of its Christians are British subjects and many of the churches are in British territory. The British rupee is the only legal tender within French territories. The system of education is progressive to a satisfactory extent. A line of railway running via Villenour, from Pondicherry to Villupuram on the South Indian Railway, maintains communication with Madras and the rest of British India, and Kārikāl is linked to the same railway by the branch from Peralam. The telegraph is working throughout the Settlements. A Chamber of Commerce consisting of fourteen members, nine of them Europeans or persons of European descent, was reorganized in 1879. The capital, Pondicherry, is a very handsome town, and presents, especially from the sea, a striking appearance of French civilization. It forms the head-quarters of the French national line of steam communication with the East, the Messageries Maritimes. The total sea-borne exports from French India in 1904 were returned at £1,209,000, of which £409,000 was with France, £113,000 with French colonies, and the remainder with other countries, chiefly British. The imports by sea in the same year were valued at £232,000, of which £202,000 came from foreign countries and the remainder from France and her colonies. The number of ships entering ports in the French Settlements in the same year was 413, with an aggregate burthen of 683,727 tons.

Pondicherry (*Puducheri*, *Pulcheri*).—The chief of the French Settlements in India, the capital of which, a town of the same name, is the head-quarters of their Governor. The town is situated on the Coromandel coast in 11° 56′ N. and 79° 49′ E., about 12 miles north of Cuddalore. It lies on the

road leading from Madras to Cuddalore, and is the terminus of the Villupuram-Pondicherry branch of the South Indian Railway. The distance from Madras to Pondicherry is 122 miles by rail and 105 miles by road. The area of the Settlement is 115 square miles, and its population in 1901 numbered 174,456. It consists of the four communes of Pondicherry, Oulgaret, Villenour, and Bahūr. The population of the town of Pondicherry in the same year was 27,448, of whom 12,904 were males and 14,544 females. Hindus numbered 14,544 and Christians 7,247, most of the latter being Roman Catholics. The history of the place is given in the article on the FRENCH POSSESSIONS. The Settlement was founded in 1674 under François Martin. In 1693 it was captured by the Dutch, but was restored in 1699. It was besieged four times by the English. The first siege under Admiral Boscawen in 1748 was unsuccessful. The second, under Eyre Coote in 1761, resulted in the capture of the place, which was restored in 1765. It was again besieged and captured in 1778 by Sir Hector Munro, and the fortifications were demolished in 1779. The place was again restored in 1785 under the Treaty of Versailles of 1783. It was captured a fourth time by Colonel Braithwaite in 1793, and finally restored in 1816.

The Settlement comprises a number of isolated pieces of territory which are cut off from the main part and surrounded by the British District of South Arcot, except where they border on the sea. This fact occasions considerable difficulty in questions connected with crime, land customs, and excise. The Collector of South Arcot is empowered to deal with ordinary correspondence with the French authorities on these and kindred matters, and in this capacity is styled the Special Agent. At Pondicherry itself is a British Consular Agent accredited to the French Government, who is usually an officer of the Indian Army. The town is compact, neat and clean, and is divided by a canal into two parts, the Ville blanche and the Ville noire. The Ville blanche has a European appearance, the streets being laid at right angles to one another, with trees along their margins reminding the visitor of continental boulevards, and the houses being constructed with courtyards and embellished with green venetians. All the cross streets lead down to the shore, where a wide promenade facing the sea is again different from anything of its kind in Southern India. In the middle is a screw-pile pier which serves, when ships touch at the port, as a point for the landing of cargo and, on holidays, as a general promenade for the population. There

is no real harbour at Pondicherry; ships lie at a distance of about a mile from the shore, and communication with them is conducted by the usual *masula* boats of this coast. Facing the shore end of the pier is a statue of the great Dupleix, to whom the place and the French name owed so much. It is surrounded by a group of carved stone columns which are said to have been brought from the ruins of the celebrated fort of GINGEE. Behind is the Place Dupleix (or Place de la République) with a bandstand, and west again of this the Place du Gouvernement, a wide extent of grass with a fountain in the middle of it, round which stand the chief buildings of the town, including Government House, the Hotel de Ville, the High Court, and the barracks. Other erections in the town are the Secretariat, the Cathedral of Notre Dame des Anges, the college of the Missions Étrangères, the Calve college, two clock-towers, a lighthouse, the hospital, and the jail. The town also contains a public library of about 16,000 volumes, and public gardens with a small collection of wild animals and birds.

Pondicherry was made a municipality in 1880, with a mayor and a council of eighteen members. The receipts and expenditure of this body during the ten years ending 1902 averaged Rs. 47,000. There is no drainage system, but the water-supply is excellent, being derived from a series of artesian wells, which are one of the features of the place. Until they were discovered, about the middle of last century, the only source of supply was from ordinary wells sunk within the town. The best of the present artesian sources is at Mudrapālaiyam, from which pipes have been taken to reservoirs in the market and the Place du Gouvernement. The roads of the town are kept in excellent order. The ordinary means of locomotion is the well-known 'push-push,' which is pushed and pulled by two men. The chief educational institutions are a college belonging to the Missions Étrangères, which teaches up to the B.A. standard in French, and the Calve college, a non-denominational institution in which both Europeans and natives receive instruction up to the Matriculation. The latter is affiliated to the Madras University. The industries of Pondicherry consist chiefly of weaving. The Patnūlkārans, a Gujarātī caste of weavers, make a kind of zephyr fabric which is much used locally and is exported largely to Singapore. Cotton stuffs are also woven by machinery in the Rodier, Savana, and Gaebelé mills. A new industry is the manufacture of cocotine, a substitute for *ghī*, at the Sainte Elisabeth factory. The total

value of the imports by sea in 1904 was £179,000, and of the exports £1,102,000, of which £27,000 and £435,000 respectively were brought from and sent to France or French colonies. The principal imports are wines and spirits and areca-nut, but the total is made up of a number of items of which none is individually important. The exports mainly consist of ground-nut kernels and oil, but cotton fabrics, coco-nut oil, and rice are also items of importance. The boats of the Messageries Maritimes Company call regularly at the port.

Kārikāl (*Kāraikkāl*, 'fish pass'; the *Carical Cariukalla* of Bartolomeo).—French town and Settlement on the Coromandel coast, lying between the *tāluks* of Māyavaram, Nannilam, and Negapatam in the Tanjore District of Madras and the Bay of Bengal. The town is situated in 10° 55′ N. and 79° 50′ E. The Settlement is divided into three communes, containing 110 villages in all, and covering an area of 53 square miles, and is governed by an Administrator subordinate to the Governor at PONDICHERRY. The population has been rapidly decreasing. In 1883 it was 93,055; in 1891, 70,526; and in 1901, 56,595; but its density is still very high, being 1,068 persons per square mile. Kumbakonam is the only *tāluk* in Tanjore District which has a higher density. Each of the three communes, namely, Kārikāl, La Grande Aldée, and Nedungādu, possesses a mayor and council. The members are all elected by universal suffrage, but in the municipality of Kārikāl half the number of seats is reserved for Europeans or their descendants. The country is very fertile, being irrigated by seven branches of the Cauvery: namely, the Nandalār, Nāttār, Arasalār, Tirumalarājanār, Mudikondānār, Vānjiār, and Nūlār, besides many smaller channels.

The capital of the Settlement is situated on the north bank of the Arasalār, about 1½ miles from its mouth. It has a brisk trade in rice with Ceylon and to a less extent with the Straits Settlements. In 1904 it had no commerce whatever with France, and very little with other French colonies. The total imports amounted to £49,000, of which £1,600 came from the French colonies. The total exports were valued at £106,000, out of which only £600 went to the French colonies. The port is merely an open roadstead, provided with a lighthouse 142 feet high, the light in which has a range of from 8 to 10 miles. Indian labourers emigrate from Kārikāl to the French colonies in large numbers. Inland customs are governed by a convention with the Madras Government, and all salt consumed in French territory is by treaty purchased

from the British on payment of an annual indemnity of Rs. 20,748. In 1899 Kārikāl was connected with Peralam on the Tanjore District board railway. The line is 14⅔ miles long and is owned by the French Government, but worked by the South Indian Railway Company.

Kārikāl was promised to the French in 1738, in return for their assistance, by Sayāji, the exiled Rājā of TANJORE. He did not, however, keep his promise; and it was only by the assistance of Chanda Sāhib, then at war with Sayāji, that a grant of the town was obtained in the following year. An additional cession of 81 villages was obtained in 1749 under a like pressure and with the same assistance, when the French and Chanda Sāhib were besieging Tanjore. The latter grant was confirmed by treaty in 1754. The town and fort were besieged by an English force under Major Monson in 1760, and, after a gallant defence of ten days, surrendered on April 15. They came into British possession again on three subsequent occasions (see FRENCH POSSESSIONS), and were finally restored to the French on January 14, 1817.

Mahé.—French Settlement within the limits of Malabar District, Madras Presidency, situated in 11° 43′ N. and 75° 33′ E., near the mouth of the river Mahé, about 4 miles south of Tellicherry. Area, 26 square miles; population (1901), 10,298. The history of Mahé resembles in its essentials that of the other FRENCH POSSESSIONS, and it is now a decaying place. Most of its chief buildings are picturesquely situated on the bank of the river close to its mouth. The site is hilly and covered with a dense mass of coco-nut palms, and it is noted for the fertility of its soil and the salubrity of its climate. The Settlement is in charge of a *chef de service* subordinate to the Governor at PONDICHERRY. The place contains a Roman Catholic chapel, three boys' schools, one girls' school, and a British post office. A long wooden bridge maintained by the Malabar District board gives access to British territory on the right bank. The railway line from Calicut to Cannanore passes close to Mahé.

Yanam (French, *Yanaon*).—French Settlement within the limits of Godāvari District, Madras Presidency, situated in 16° 44′ N. and 82° 13′ E., about 12 miles from the mouth of the Gautami Godāvari, at the point where the Coringa river branches off from the main stream. The territory extends along the banks of these rivers and has an area of 5 square miles. Besides Yanam, four hamlets—Adivipālem, Kanakalapeta, Mettakūru, and Kursammapeta—are included in it. The

population of the Settlement in 1901 was 5,005, compared with 5,327 in 1891.

Yanam is a comparatively modern town. The French first established a factory here about 1750, and the place was formally ceded to them in 1752. It shared the vicissitudes of the other FRENCH POSSESSIONS on the coast; and from 1793 onwards was, save for a short period in 1802–3, in the occupation of the English till the treaties of 1815 restored it to its former owners. In 1839 the town was laid waste by a hurricane which was accompanied by a great inundation of the sea. Subject to the control of the Governor of the French Possessions, who resides at PONDICHERRY, Yanam is administered by an official called the Administrator, who is assisted by an elective council of six members. The Administrator is the head of the magistracy and police, and president of the criminal court. Local affairs are managed by a communal council, also elective, of twelve members. There are two free schools, one for boys and the other for girls, having an attendance of 202 and 248 respectively. The area of cultivated land in the Settlement in 1903 was 664 hectares, or about 1,000 acres. Land is held in absolute ownership subject to the payment of an assessment of Rs. 37–8–0 per candy (about 4½ acres) for cultivated land, and Rs. 5 for pasture land. Water for irrigation is supplied free of cost from the British canal which passes through Yanam. There is now little trade; in 1904 the exports were valued at only £900 and the imports at £2,600.

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Oxford: Printed at the Clarendon Press by HORACE HART, M.A


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PALK STRAIT
Palk Bay
GULF OF
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SOUTH ARCOT
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